FEBRUARY 1999

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Multichannel NEWS International

THE WORLD'S SOURCE FOR TV AND TELECOM ANALYSIS

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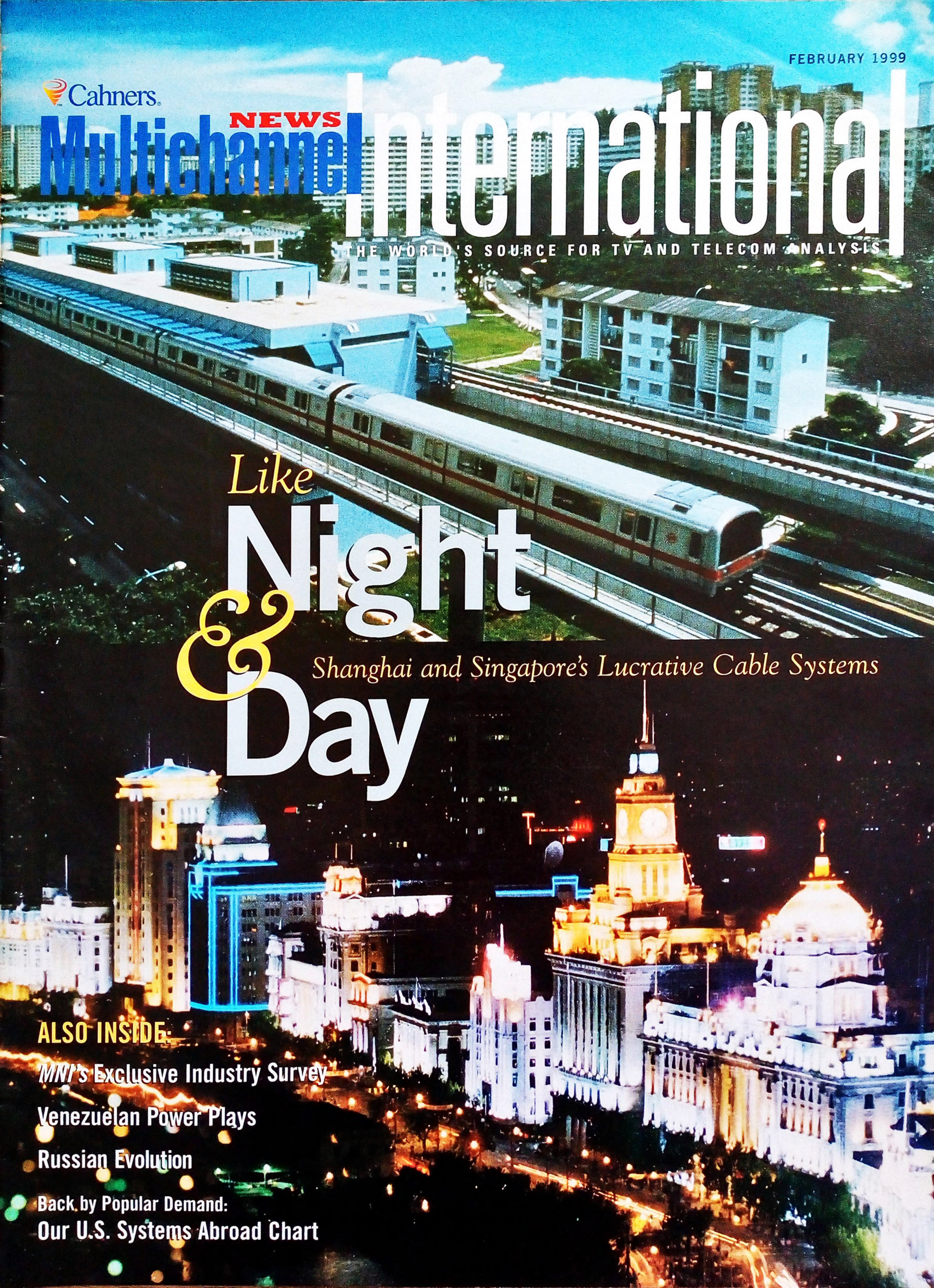

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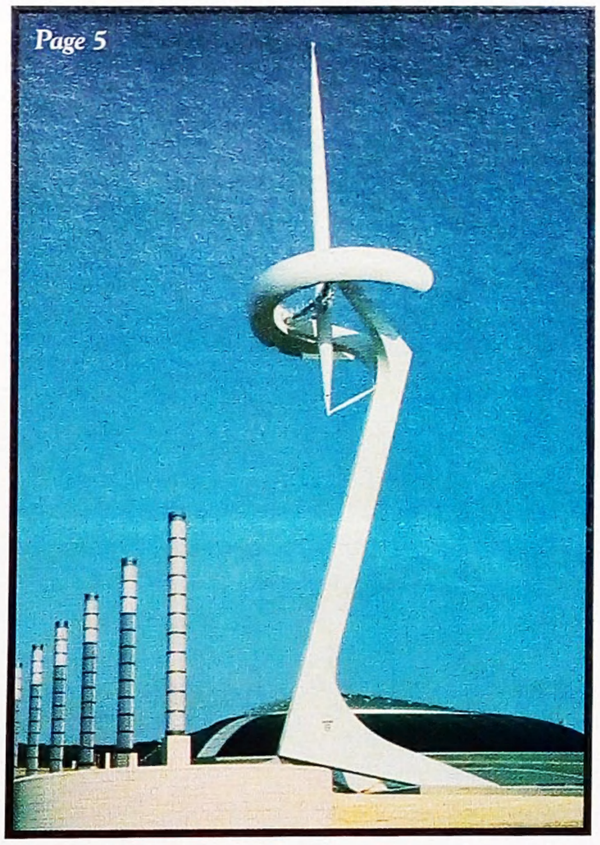
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On the cover: Asian cable strongholds Singapore (top) and Shanghai

WORLD **WATCH**

Making Bouillabaisse

BY JANET STILSON

We journalists have a habit — some consider it a nasty habit — of pointing out ironies, much like aunts who have the nerve to announce in the middle of a family gathering that you have soup on your shirt.

Heaven knows I'm no exception to the rule. So here, for your consideration, is the irony that has interested me most of late: There's hardly a market in the world where broadcasting companies haven't created pay television channels. And yet, in most areas, broadcasters are stymieing the growth of pay TV advertising revenue through their control of the viewership data released by ratings-research companies.

The lack of data is a real turn-off to advertisers. And that's one of the reasons why multichannel TV's share of total TV-ad spending outside the United States was a mere 1 percent in 1997, or $US652 million out of $US64.5 billion, according to the number crunchers at Turner Broadcasting System International. That tiny drop in the soup bowl may be based on information that's now a year old. But there's hardly any indication that the business has grown by leaps and bounds over the last 12 months.

Take Germany, for example, one of Europe's most sophisticated cable markets. There, the reigning broadcasting commission, AGF, interfaces with the research company GFK. It has structured a deal through which cable networks may only get access to ratings data about their programming by paying a minimum annual fee of $US1 million, according to David Woolfson, Turner's senior vice president of international global research.

"In Europe, the broadcasters have the most control," comments Connie Pettit, managing director and vice president of the Multichannel Advertising Bureau International. "Contracts have locked out any kind of multichannel measurement in most of the countries." However, she adds that in the United Kingdom, both total-TV-household and multichannel-household information is available.

Pettit explains that in many markets, the problem is that while networks can get information on their services as part of the total TV universe, they're blocked from receiving data based on the multichannel universe — a measurement that is crucial for the development of viable research.

By her estimation, Latin America is head and shoulders above Europe and Asia in terms of advances in obtaining both qualitative and quantitative multichannel-ratings information. "Asia will probably be right behind them this year, followed by Europe," she says.

There's one huge reason why Europe is lagging behind. Unlike the other two regions, there is no dominant ratings company supplying research across multiple countries. That makes it more difficult for pay TV channels to apply appropriate pressure.

"In Europe, the broadcasters have the most control" over multichannel-TV ratings data.

—Connie Pettit, managing director and vice president, Multichannel Advertising Bureau International

Certainly, the number of countries joining the pay TV-ratings fold is increasing. IBOPE is expected to add multichannel-ratings information in Brazil this year, for example. And, as Pip Bulbeck reports in our "Blips on the Screen" section, Australian pay TV is due for a windfall of information this month.

But there's many a broadcasting company that needs to realize the potential advertising gold mine in their pay TV properties, and offer advertisers a rich bouillabaisse of pay TV information in the soup bowl — and not on their shirts.

Janet Stilson

Multichannel News International
THE WORLD'S SOURCE FOR TV AND TELECOM ANALYSIS

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BLIPS ON THE SCREEN

Spain's Busy Bystander

MADRID

BY ELENA RUIZ ARGÜELLO

One company in the cable business that hardly has a single subscriber today is virtually assured of being its country's leading multiple system operator by the end of next year.

Spain's Telefónica Cable (TC), a subsidiary of the giant telco Telefónica S.A., plans to offer cable services to 35 million people in 10.8 million households by the end of next year, reaching the majority of Spain's 40 million people and 11.8 million TV households.

Under Spain's cable legislation, one out of two cable franchises awarded in every region has been granted to TC. But the company has been forced to wait at the starting gate because of a government-mandated moratorium. That hasn't prevented Telefónica from building the infrastructure and advancing other plans to prepare for the day when it can flip the switch and turn on its cable services.

Just recently, TC received permission to operate in a few small areas: either ones considered "low-profit" regions with a low density of homes or others where there was no bidder for the local franchise.

However, beginning this August, TC will be allowed to operate in its first major region, Catalonia. As other regulatory barriers fall, TC will ultimately be able to address every corner of the country.

When Spain's cable regulations were first passed, TC was given the right to enter the cable market last December, but lobbying efforts by the competing cable operators persuaded the government to push the timetable back by eight months to this August.

One industry analyst believes "it doesn't matter that TC will begin to operate cable a few months later than expected, as it will show, anyway, its much-overwhelming strength."

In August, TC will begin operating cable in regions covering 2.4 million households where the moratorium will be lifted. Catalonia is the plum franchise area, with 6 million people. In the first half of 2000, TC will start offering cable in Madrid, home to 4.5 million people.

That's not to say that TC's rivals have given up on trying to keep the telco giant off their turf. They're well aware that while TC might be sidelined for the moment, its infrastructure is extraordinary: Over the past several years, TC has been installing hybrid fiber-coaxial (HFC) and fiber optic networks in almost every Spanish city with more than 50,000 inhabitants. Some analysts calculate that TC's infrastructure already stretches 60,000 kilometers (36,000 miles) around the country.

A source at TC acknowledges that the company "will invest 496 billion pesetas [$US3.4 bil-

Continued on Page 33

A Telefónica transmission tower in Barcelona

Learning to Cooperate In South Africa

JOHANNESBURG

BY JANET PARKER

A South African media analyst was recently quoted as saying: "Nothing focuses the mind of the media faster than the prospect of increased competition." This has quickly proved the case for the country's public broadcaster, the South African Broadcasting Corp. (SABC), which is facing a new free-to-air competitor on top of the tough competition already coming from pay TV.

In what can be viewed as a radical about-face, the SABC has entered into a series of commercially favorable channel-supply agreements with its erstwhile rivals, digital-satellite company Multichoice Africa and its sister company, M-Net. For three years, the SABC tried and failed to launch its own analog direct-to-home satellite service.

"The deal is part of the SABC's strategy to fend off increased competition from the new commercial free-to-air channel e.tv," says SABC spokeswoman Marj Mur-

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Generations is featured on both the SABC1 terrestrial channel and on satellite-delivered network Channel Africa.

Pushing Aussie Ad Sales Forward

SYDNEY

BY PIP BULBECK

The Australian multichannel TV industry may be notorious for its numerous — and often heated – battles, but if there were ever an issue to galvanize the business, it is the impending release of ratings information that will shed light on specific pay-programming performance.

So far, the industry has had to content itself with certain studies, and an occasional wince from the rival terrestrial networks. But later this month the country's two rival cable operators, Foxtel Ltd. and Cable & Wireless Optus Ltd., will begin releasing People Meter ratings information.

That move will, it is hoped, appease advertisers, agencies and media buyers who have been clamoring for figures to assess viewership ever since advertising was allowed on pay TV in July 1997. And it will give multichannel companies a better chance at grabbing a larger slice of the country's advertising spending.

TV accounts for about $A2 billion ($US1.27 billion) of the country's $A6 billion ($US3.82 billion) in total ad spending. Pay TV, in its first year of carrying advertising — July 1997 to June 1998 — garnered just $A15 million to $A20 million ($US9.55 million to $US12.73 million), according to data from The Multichannel Network, the company that sells ad time for channels on Foxtel and Austar, another pay TV platform.

If some industry officials are to be believed, that number may grow to over $A100 million ($US63.65 million) by 2003, with the revenue spread across the three operators and 54 channels.

The broadcasters are already feeling cable's impact, and have

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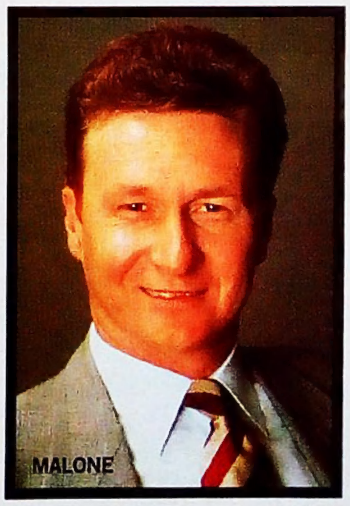


MALONE

Moving Into

The Millennium

In an exclusive *Multichannel News International* survey, readers cast their votes on how the industry's future is shaping up.

IN THE UNLIKELY setting of South Africa, MIH Holdings Ltd. has a tremendous subscriber sales story to tell. From 15,000 subscribers and a market share of about 8 percent a year ago, the company's numbers shot up to 150,000 subscribers and a market share of about 70 percent.

A pay TV triumph? No. It's a success of a different color. For the service subscribed to is M-Web, MIH's Internet-service provider (ISP), through which MIH sells Internet access alongside Multichoice, its satellite-delivered TV offering. The major new business for MIH, which admittedly came about partially through the acquisition of a local ISP, represents the kind of Internet-related projects that pay TV companies worldwide are embarking on.

Be it high-speed data transmission, Internet-over-TV or ISP offerings, these interactive services represent the categories most often cited as promising, based on the nearly 50 responses *Multichannel News International* received from around the world during an industry survey conducted over the last three months.

It is also fitting, then, that most participants chose to take part in the survey using MNI's new Web site, **www.multi-international.com**, even though it didn't exist until the survey was launched.

The Internet, especially in emerging markets, goes hand-in-hand with pay TV, executives say.

"I think it's completely untapped, especially if you look at our markets; in a lot of places the Internet revolution is really just getting rolling, so the upside is even greater," says Mike Fries, president of Denver-based United International Holdings Inc.

Completed surveys came in from five continents, with the responses equally split geographically. Besides several U.S. respondents, European opinions included replies from Germany, Britain and The Netherlands. Those from Asia included Japan and India, while Latin American replies came from Mexico, Venezuela and Argentina, among others.

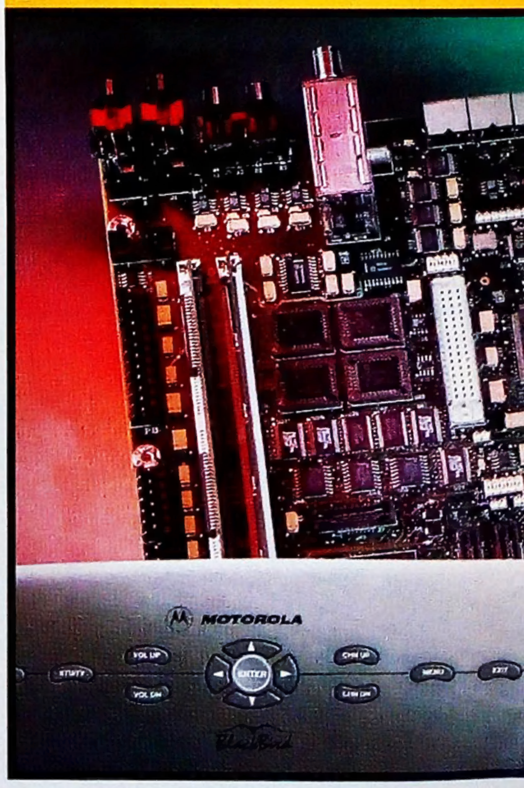
Some of the hottest new technologies in the business might not be at the wide-deployment phase yet, but that hasn't kept top industry members from citing them as the most promising new segments of the business.

For instance, the high ranking of Internet-protocol (IP) telephony didn't surprise some respondents. Although it was a fairly obscure market segment a year ago, it experienced some key developments in 1998.

"IP telephony has been an emerging technology throughout '98," says Michael McGrail, president of CableData, a billing-services company. He noted that one of the main rationales behind AT&T Corp.'s acquisition of Tele-Communications Inc. was AT&T's belief that it could deploy IP telephony across the TCI systems. "That, I think, was the enormous stimulus for IP telephony interest," he says.

Industry members say it's not too soon to start thinking ahead.

"What we usually see is around two to three years delay between the technology and the real commercial deployment in the field," says Joram Shke-

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di, chief operating officer of New Media Communication, a company in Tel Aviv, Israel, that specializes in high-speed data systems over broadband networks.

The high degree of interest in the new services, as was reflected in the survey, comes from very simple reasoning, some say.

"We all have to look for new revenue streams," says Raul de Quesada, director of marketing for Fox Sports Américas. "You have to be more creative in finding revenue-producing activity, in relation to delivery, in order to find an acceptable level of profitability."

Here's a category-by-category look at the survey results.

1) What technologies are you most interested in?

Respondents were asked to identify what technologies they are most interested in tracking, and to rank them according to their degree of interest.

Internet-access provision, voice-over-IP, Internet-over-TV, e-mail TV, enhanced television, video-on-demand (VOD) and cable modems all led the category of the hottest technologies to watch.

Of the high degree of interest in Internet-related services, Fries says, "It's an area of the business that is least known and least understood. Everybody understands impulse pay-per-view and near-video-on-demand and interactive TV — that's our business. But the Internet and data is historically not our core business, and therefore one that I think is going to require more education."

Another new product that scored particularly high was the integrated digital-television set, or IDTV. That technology, which is beginning to hit some markets, involves television sets that have the set-top box components built into them.

Categories that ranked with low levels of interest were digital subscriber line (DSL) technology and voice-activated set-tops.

Write-in choices of areas of interest included "the convergence of the TV and Internet" and local multipoint distribution services (LMDS), the new wireless technology.

2) What new programming and services are you most interested in?

High-speed Internet access earned the most votes in this category, followed closely by interactive television and Internet-over-TV.

Despite initial disappointment in the industry in pay-per-view and on-demand services, both segments also ranked very high, indicating that digital-technology deployments are increasing the real potential of those categories.

One of the most hyped aspects of interactive TV, home shopping, ranks as a service with high interest, "maybe because it is one of the oldest [interactive] services, and also because it is also the most practical and concrete one," speculates Patricia Noe, international business manager of QVC International in Düsseldorf, Germany.

Home banking was mentioned less often, but there was still a high level of interest— as much as there was in computer-oriented programming. Respondents expressed some interest in digital audio, but relatively little compared to other services listed.

"I think audio services are going to be a lower-margin, ancillary-type service — not a core service," says Fries. "You're not going to see $40 a month spent for digital audio, like you'll get for telephony and like you'll get for broadband data and like you'll get for cable [video]."

Some of the write-in choices included arts/architecture programming, interactive-sports programming and interactive-advertising programming.

3) What do you perceive as the program-service category with the greatest potential for your company?

Again, Internet reigns supreme. High-speed Internet access and Internet-over-TV are the top areas readers see offering them the most potential. Related issues such as Internet integration and Internet convergence were also given votes, as were cable modems.

"People are ready to pay for high-speed Internet access. This is something that is well defined, and there is evidence available all around the world," explains Shkedi. "Even the satellite modem is getting commercial exposure and is being distributed," adds his co-worker, Danny Elbaz, vice president of marketing for New Media Communication.

Interactive TV was another top choice. There were also a few votes for on-demand television — either pay-per-view or video-on-demand.

"Pay-per-view and video-on-demand are going to be developing in the next couple of years in Latin America, especially with a channel like ours, where it depends on very, very valuable sports rights," says de Quesada of Fox Sports Américas, which counts Argentina as its major market. "As we grow, there's going to be some opportunity to develop that business."

Noe of QVC sees it differently. "Compared to techniques like pay-per-view or video-on-demand, interactive TV is more useful and can bring a wider range of services," she says.

Write-in choices included Web-programming integration, video-streaming over the Web, LMDS and value-added services.

4) What do you perceive as the program-service category with the greatest potential for the industry as a whole?

By now, the answer to this question seems obvious: Internet, Internet and Internet.

"Although that is something that we're doing, I think we are all leaning towards a time in the not too distant future where we are launching entertainment-based Internet services — e-commerce, etc. — and we also have this little television channel on the side," says Rod Riegel, vice president of marketing for Canal Fox/Fox Kids Latin America. "It's amazing how the bent has moved — not away from television, but certainly toward how we might be able to integrate online technology with our entertainment brands."

High-speed Internet access, Internet-over-TV and interactive TV were the top choices, as was digital TV.

Readers are holding out great hopes for e-commerce, VOD, cable modems, home-shopping and cross-platform digital services.

"Nobody necessarily believes that [TV] is dead, but it is certainly dying in its traditional form," notes Riegel.

"Internet and data is historically not our core business, and therefore one that I think is going to require more education."
— Mike Fries, president, United International Holdings Inc.

5) Which distribution technology will grow the most over the next five years?

If interactive services are most easily delivered over cable, then it would seem most logical, given the earlier responses, that cable would be picked as the distribution medium with the most potential to grow in the near-term future. However, and only by a small margin, that was not the case. Digital satellite was chosen over digital cable.

"The world of physical connectivity is going to play a decreasing role, and the non-physical delivery is going to be more prevalent," says Les Penfold, chief financial officer of MIH Holdings, which is involved in systems and technology activity in Europe, Asia and the United States, as well as in Africa.

Fries of UIH insists that cable will triumph, and he holds up two words as proof: voice and data.

Regardless, Penfold maintains that another reason the Internet is important to satellite operators is that it will help them compete with cable by using some sort of ISP service as the return path to the customer.

"The same sort of service that they're going to end up providing through a cable-fed system, we're probably going to duplicate through a satellite/Internet-type of service," he says. "That's sort of where the interest at the moment is."

Penfold insists that satellite will meet the interactive and broadband challenges of the future, although its play where cable already exists will be more difficult.

But he also notes: "I think you're going to get to areas where, if you were to carousel information on a satellite, you could end up with a much higher capacity than you could over digital cable, which would be a linear feed rather than a carousel feed. For that reason, I agree it will be a close call."

Next came digital-terrestrial TV, followed by analog satellite. Both analog wireless and analog-terrestrial television were voted lowest on the list.

6) What was your greatest corporate challenge in 1998? What will it be in 1999?

There was not one challenge most commonly cited by respondents, but there was a general tone cutting across several responses that indicated industry members are wrestling with the fast pace of change in the business.

Answers indicating such a feeling included "getting people to accept technology," "change management," "keeping abreast with technology," "keeping up with expansion" and "recruiting top talent."

Gene Powell, owner of a satellite-antenna systems company called G.E.P Enterprise in the U.S. state of Mississippi says simply that his greatest challenge in 1998 was "to keep up with the change of this industry, and to learn the new technology that is growing faster than I can read about it."

Regional issues were noted often as concerns, most notably the fallout from the Asian crisis, and challenges in getting subscriber and advertising revenue in Latin America, and uncertainty over Brazil.

Most 1999 challenges cited involved the deployment of new technology such as Internet TV or high-speed Internet access elements, or in new initiatives to expand programming networks into new regions or countries.

Despite all the talk about "Y2K, " or the year 2000 bug, concerns going into the millennium, only one survey respondent cited that issue as a big challenge during 1999.

7) Which industry conferences do you find the most valuable?

Even though most of the respondents were based outside of the United States, three U.S. conventions were among those cited most often: the National Cable Television Association convention; the National Association of Television Program Executives convention; and the Western Cable Show.

The Jornadas cable show in Buenos Aires was the regional cable show chosen the most often, but it's a good example of one that's expected to refocus because of industry consolidation.

"I think that Jornadas just reflects the industry as a whole, and especially Argentina. The industry is going through some

changes," says de Quesada. "We are a very young industry that is in the process of evolving, and as we evolve, all related shows and all related matters in the industry are going to evolve along with the industry."

Those conferences were followed by the annual IBC technology show in The Netherlands; the international programming conferences MIP-TV and MIPCOM, in Cannes, France; The Society of Cable Television Engineers show; and the United States' Cable Telecommunications and Marketing convention.

Participants were also asked to cite shows they attended in 1998 but would not return to this year. However, no one show was mentioned twice in the responses. Industry members mostly went the diplomatic route in this section, choosing not to answer at all.

8) What is the fastest-growing region/market for your company?

Europe narrowly edged out the other continents as the region that's growing the fastest, but it was followed closely by both the United States and the Asia-Pacific region. Brazil was also close behind.

"North America and Europe — these are the main markets for us," says Shkedi. "These are the markets that are really moving."

"What we're seeing now is more activity in Europe from European companies," says McGrail.

"For Asia, it's too early," says Noe of QVC. "I think now Europe is just at the right time for [new services] such as home shopping. The figures [of usage] in the U.K. are really showing it."

CableData's Michael McGrail notes that one of the reasons why AT&T is acquiring TCI involves the future potential for IP telephony.

9) Where are you having the most difficulty expanding?

Asia and Brazil both received the most nods, with the U.S. a close second. Tough competition is the barrier in the U.S., whereas poor economic conditions are the factor in Brazil and Asia.

"It's primarily due to that," McGrail says of the latter. "Prior to the crisis, we were doing quite nicely in Asia, in terms of growth of new customers and so on. Since the crisis occurred, we've seen a slowdown in the income of new orders. It's not totally zero, but it's not as fast as it was.

"It just has not grown as fast as it was growing, say three years ago."

Fries of UIH cites Latin America as the most difficult market for expansion "because of a relatively uncertain economic situation right now."

Likewise, Shkedi says "the economic situation [in Latin America] is problematic; there is a high import tax on goods coming in, and they are very slow in their decision-making."

The United Kingdom, Japan and Malaysia were also cited as countries that are difficult to crack.

10) What territory do you believe holds the greatest potential in the next three to five years?

Asia might be one of the most difficult market right now, but it far and away led the choices as the territory with the greatest potential.

Likewise, Brazil is tough, but it was the territory selected as the second most-promising territory, followed closely by the U.S. and Europe.

Penfold of MIH, whose company has made a serious push into Asia oer the past year, with progress in places such as Thailand and China, sees Asia as the last major market that hasn't been divvied up by the major pay TV players across the region. "In Asia, where you've got a whole lot of little players and a whole lot of big players in individual markets, I think that's the only real opportunity left in the world for pay television," he says. ■

Asia's yin-y

What are the ingredients for cable-system success in hard-knocks Asia these days? Shanghai and Singapore offer vastly different formulas.


The golden teapot fountain outside Shanghai Cable is an apt symbol for the highly profitable system.

LAUNDRY FLAPS FROM A HUNDRED BAMBOO POLES ON buildings lining Shanghai streets that are as narrow as alleys. Street sweepers in surgical masks gather the grime from construction crews, which work 'round the clock to tear down buildings and put up high-rises, seemingly on every street corner.

About 1,300 miles away, the spic-and-span streets of Singapore bustle with a more seemly level of traffic. As aesthetically sanitized as a Disney theme park, the city-state would get a "G" rating if it were a movie.

With its mass of humanity, now some 3.2 million households strong, Shanghai might seem a far cry from Singapore and its scanty 900,000 homes. Yet the Chinese bloodlines and European influence that run through these metropolises give them a sort of distant-family look. If they were cousins, Shanghai would be a voluptuous, gaudy babe eyed suspiciously over the rim of a teacup by the rail-thin, elegant beauty called Singapore.

Just as the cities are so different, yet similar, so, too, are their cable systems. Shanghai Cable and Singapore Cable Vision are among the most successful multichannel operators in Asia and roughly the same age. Both are government-backed enterprises. "Both have exclusive franchises that are second to none. Both are 300-pound gorillas in their own right," comments Bryan McGuirk, vice president and director of distribution at NBC Asia Pte. Ltd.

And both are facing tough challenges ahead as they make choices about how to roll out state-of-the-art multimedia services and make a business from fiber optic networks. Yet, for all their similarities, Shanghai Cable and Singapore Cable Vision have traveled down vastly different roads to arrive at their current black-ink financial state of affairs. And one needs to look at no more than their retail subscriber fees to understand why.

ang
Systems

BY JANET STILSON

Booming In Shanghai

"We're not a commercial operation, so our fees are very cheap," explains Shanghai Cable's president Hu Yun Chou. He sits between two translators dressed in overcoats on a long leather couch at the system's headquarters, an older building that will be replaced by a more swanky high-rise before long.

Exactly how cheap is "cheap"? Try about 8 yuan ($US1) a month for a basic package of 20 channels — pretty much the norm for systems in China. But Shanghai Cable does something most Chinese operators do not: For 5 yuan more (US63 cents), subscribers can receive a premium tier, composed of the state-run China Central TV's satellite-delivered networks.

Since it launched in December 1992 with some 72,000 customers, Shanghai Cable has grown to a whopping 2.5 million subscribers, with a base of 3 million anticipated by the turn of the millennium. Right now, there are 3.2 million households in the city, according to A.C. Nielsen's Hong Kong office. "In terms of the number of subscribers that feed off a single headend, it's the largest system in the world," says Bill Katherman, general manager of Scientific-Atlanta Inc.'s joint-venture manufacturing facilities in China and the chief representative in its Shanghai office.

SHANGHAI CABLE PHOTO BY JANET STILSON

Just as China has designated Shanghai as a special economic zone — thus, all that construction — so too has the central government determined that Shanghai Cable will lead the industry into the 21st Century. "The system is looking at all the latest technology and is truly trying to take a leadership role in cable in China, and [in] how to deploy multimedia services," Katherman explains. "They will be expected to have the most advanced system in China, and they know that."

Right now, the system isn't exactly advanced, with its 450 megahertz plant due for an upgrade to 750 MHz. Regardless, "we have already conducted Internet experiments," says Hu, "and we're going to do interactive testing — digital one-way — next year." The system is pretty much barred at present from moving into telephony — an activity reserved for its government sibling, China Telecom Ltd. But the non-entertainment aspects of multimedia and interactive television are what most interest Shanghai Cable, according to Katherman.

Clearly, the money generated from entertainment programming is the systems' backbone today. "The main source of revenue for the system now is advertising," explains Hu. "But in the future, it will be network services."

Hu is a master of understatement. While most systems in Asia are lucky to have any advertising revenue at all, Shanghai Cable has built a sizeable ad business. It derives its ad revenue solely from its six homegrown channels, or "self-editing" channels, two of which are joint ventures. The channels, which specialize in news, sports, music, finance, film/TV drama and theater, garnered some 200 million yuan ($US25 million) in ad revenue last year, he says.

There are some other systems around the world that are achieving that kind of yearly ad revenue, according

The construction of Singapore Cable Vision over the last five years has resulted in the connection of 85 percent of the country's households.

to industry feedback received by Connie Pettit, managing director and vice president of the New York-based Multichannel Advertising Bureau International. "But Shanghai is among the most aggressive," she says.

Pettit notes that because Shanghai Cable doesn't have competition from other local systems, it has a decided edge.

What's more, because the system only allows Western programmers access to the system by way of limited blocks of programming on the original channels, with some barter advertising, it doesn't have much competition from heavyweights like CNN International, either.

Combined with subscriber fee revenue of 100 million yuan, the system grossed about 300 million yuan ($US37.5 million) last year.

The reed-thin, unassuming Hu may say that the system isn't commercial. But those numbers certainly haven't been achieved by some kind of do-good social worker. "Operators in China are increasingly expected to operate as commercial enterprises," notes MTV Asia's managing director Frank Brown. Like most systems in China, Shanghai Cable is not aiming for an elite segment of the population, and is fully cognizant of spending power. According to a survey conducted by CVSC-Sofres Media in 1998, 81 percent of all Shanghai residents have annual personal income of 1,200 yuan ($US150) or below.

But even at that, "only about half the customers pay the dollar [subscriber] fee, so they're really reliant on the advertising revenue," says one industry observer. Officials at Shanghai Cable flatly deny that.

It's questionable in the minds of some whether Shanghai Cable can maintain its financial well-being with the current subscriber fees, especially if it intends to transform itself into a technological wunderkind. "It may be raised next year," says Hu, in speaking of the fee. "But there's a limit. We won't raise it very high."


HU


YONG

He not only has a mandate from the government to keep that fee low, but he can't expect any financial support from the state. In fact, Shanghai Cable is expected to shell out a percentage of its revenue to the government entity that controls it, the Shanghai Broadcast and Film Bureau. "The percentage varies from year to year," Hu says, putting it at about 5 percent for 1998.

While the government takes some of the systems' money, it also provides a few "cushions" to make life quite comfortable. And they go well beyond doling out exclusive franchises. Shanghai Cable has interests in several other lucrative ventures, including a 50 percent interest in the Shanghai Oriental Pearl Ltd. Corp. – home of the bulbous, Christmas-ornament-like TV tower that dominates the city's skyline. Also in the system's investment mix is a giant convention center that's currently under construction alongside the TV tower. The center is slated to host a meeting of the world's 500 largest corporations in October. The portfolio also includes minority stakes in the Shanghai Wang Da Information System Ltd. Corp., a computer-integration company, and the Shanghai Stadium Hotel Management Ltd. Corp.

This disparate assortment of assets under the umbrella of a large cable system speaks to a whole future trend within China, according to William Brent, president of the Shanghai-based production house and consultancy China Entertainment Network. "What you're seeing is the start of China creating entertainment conglomerates like Time Warner [Inc.]," he says. The big difference is that the conglomerates now being hatched are government-run entities, and chiefly just interested in China.

In fact, in character with the country as a whole, Shanghai Cable isn't that interested in Western influences at all, and it abides by strict government curbs on importing full-schedule cable channels from beyond the mainland. Hu offers next to no hope that that policy will change in the foreseeable future, though his original channels televise shows from the likes of Discovery Channel Asia, ESPN Asia and MTV Asia, and news clips from CNN International. While the upgrade to 750 MHz will give the system room for more channels, the emphasis will be on using the capacity for new multimedia services, says Hu.

MTV's Brown notes that the Shanghai system has more latitude than most Chinese systems to do what it wants, because it's in a designated special economic region. But another panregional program executive notes that, on the flip side, Shanghai Cable is one of the hardest systems to get on. "The Beijing system is tough, because the government is always looking down its nose," says the source. "And Shanghai is second to Beijing in that regard, because it's such an important financial center."

Shanghai may be considered a jewel in the crown for China — and, by extension, Shanghai Cable a highly precious gem in the realm of television. But the entire island-state of Singapore is bent on becoming the most advanced telecommunications hub in all of Asia, and Singapore Cable Vision is an important element in that scheme. Raising this somewhat precocious child hasn't been an easy matter.

A Tale of Two Markets

	Shanghai Cable	Singapore Cable Vision
Ownership	Government	Government/private
Subscriber growth		
1996	1.8 million	45,000
1997	2.2 million	105,000
1998	2.5 million	144,000
Basic fee	8 yuan ($US1)	$S33.95 ($US20.37)
1998 revenue	$US37.5 million	$US60 million

Source: Shanghai Cable, Singapore Cable Vision.
Subscriber numbers for Singapore Cable Vision are for residential connections only.

The Oriental Pearl TV tower and convention center under construction

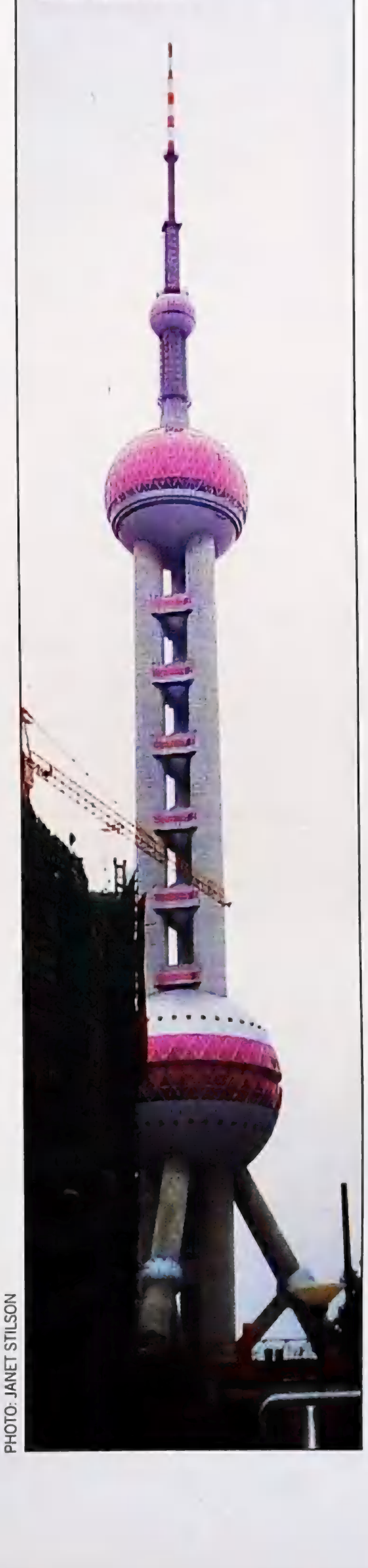


PHOTO: JANET STILSON

Singapore's Sweeter Song

Yong Lum Sung pauses in the midst of eating some dim sum in a shopping-mall restaurant to give a critical perspective of Singapore Cable Vision (SCV). "We think we need to meet our consumers' expectations by not just lowering our pricing, but by adding certain choices as well," says Yong, the system's president.

Such an admission might be considered a rather humbling experience for most cable-system executives. But just as Yong doesn't refrain from fast-food when the pickings are slim, he doesn't have any apparent discomfort conveying this. Of course, he has the "security blanket" of the solid progress made since he took control of the system about a year ago.

After years of failing to meet its subscriber and penetration projections, SCV is starting to show very encouraging numbers. It garnered some 144,000 subscribers by the end of last year, including a smattering of subscribers still using its wireless and UHF systems. That represents about an 18 percent penetration rate and a growth of 39,000 from the year before. That's well below the company's projections back in 1994, when its then-president Randall Coleman was converting the system from a primitive scrambled-UHF system to a state-of-the-industry hybrid fiber-coax affair that is expected to cost more than $S500 million ($US300 million) when it's finished. Speaking then, Coleman predicted an initial take-up rate of about 24 percent, rising to 40 percent or 50 percent as Singapore Cable Vision neared the end of its seven-year exclusive license. He also expected monthly growth of about 24,000 subscribers.

Two more presidents and five years later, the system still is a long way from Coleman's goals. Certainly, SCV is just one of many Asian pay TV companies that realize in hindsight that projections from earlier years were so off, they now look like romantic notions. Yet some still question SCV's progress. "Why is it that Taiwan has 80 percent penetration, and it started with a bunch of pirates, but the systems in Singapore and Hong Kong — which are aboveboard, better capitalized — have so far to go?" asks S. K. Fung, who is chairman of the Cable and Satellite Broadcasting Association of Asia, and refers to not only Sin-

gapore's penetration rate but the 410,000-subscriber base for Hong Kong's Cable TV system.

Others see things differently. "My hat's off to Singapore Cable Vision. In the last year, they've shown a newfound aggressiveness in promoting and marketing," comments Jim Marturano, HBO Asia's senior vice president of sales and marketing. His HBO service registers some of its best results in Asia on SCV, attracting 40 percent to 45 percent of the basic subscribers.

"We're already EBITDA positive," notes Martin Hannes, referring to the financial gauge of earnings before interest, taxes, depreciation and amortization. Hannes is managing director of Asia Pacific for MediaOne International, which has a 25 percent interest in the system, and counts three other companies as partners: Singapore International Media, Singapore Technologies and Singapore Press Holdings.

SCV's last president, Daniel Goh, was on loan to the operator from Singapore Technologies, and during his two-year stay, the focus was really on constructing the system. And in fact, it's now connected to 85 percent of the households in Singapore. In a rather unique arrangement, SCV actually has all of those homes connected to the system, and those who choose not to subscribe to the basic package of channels can pick up a few terrestrial and promotional channels through the wire for free.

As he digs into his dumplings, Yong explains that right now, SCV has a basic monthly fee of $S33.95 ($US20.37), including a government sales tax. That buys a lineup of 33 channels. For a little more, subscribers receive an additional tier of five other services. But Yong says the system can do better than that. "Of Singapore's 900,000 households, 80 percent are in public housing. And more than 50 percent of that base — or half a million households — are living in public housing with four rooms or less," he says, in trying to explain his audience's financial wherewithal. According to *Time Almanac*, the per capita income in Singapore was $US21,200 in 1996.

"People are telling us, 'You're too expensive,'" Yong says. That sentiment has certainly been registered in recent letters published in the local *Straits Times* newspaper.

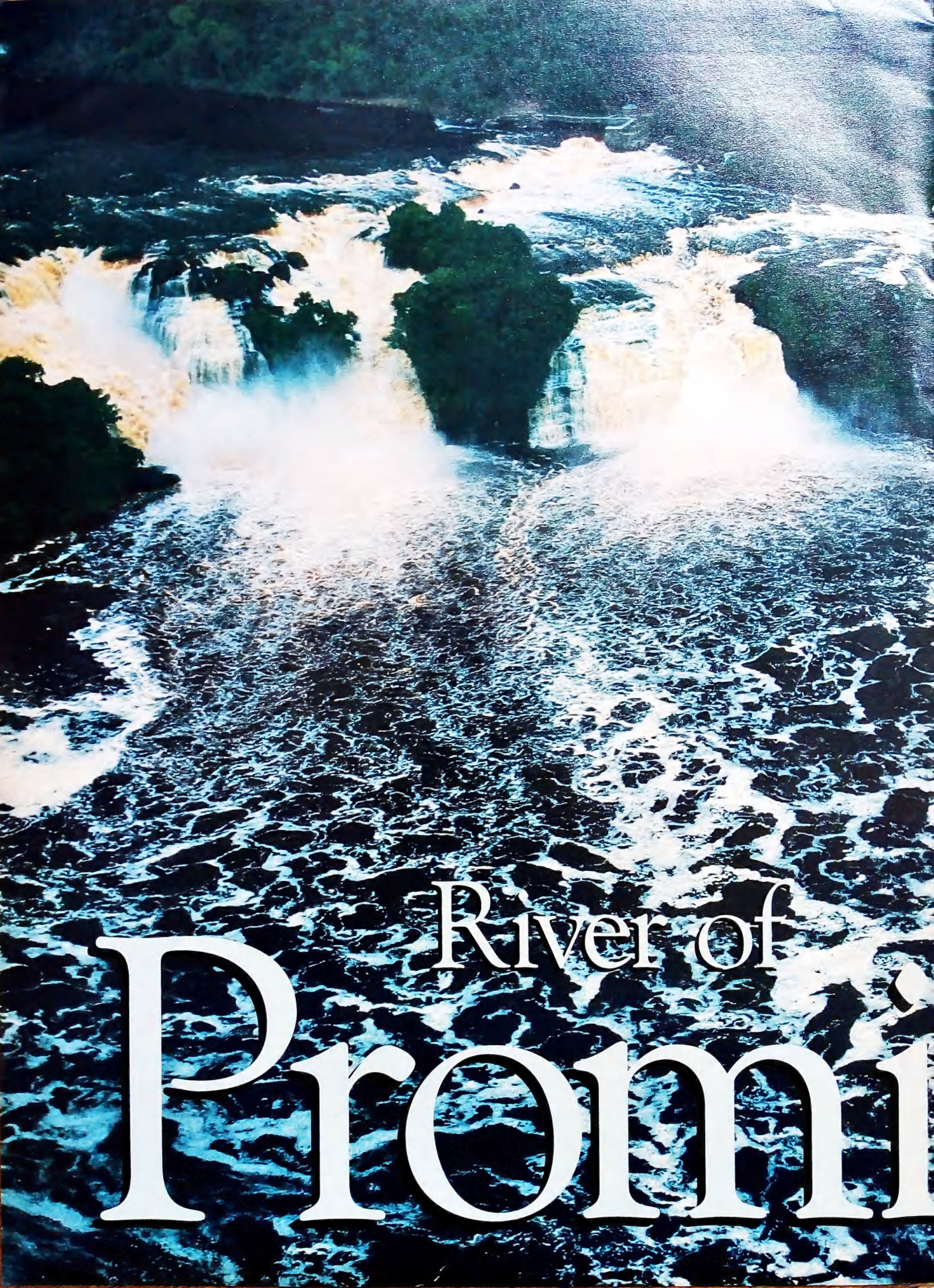
With that in mind, Yong says he's planning to restructure the offerings into more packages, probably arranged according to genre, and give subscribers a lower entry fee onto the system.

Singapore Cable Vision's customer service center

Pricing of another sort has affected SCV greatly over the last year. As is true for most Asian operators, many of SCV's program contracts are written in U.S. dollars, and with the Singapore dollar devalued by about 15 percent since the Asian crises kicked in during late 1997, costs have risen. "We are suffering because we have to pay the program suppliers so much more," he says, adding that SCV is attempting to renegotiate contracts in Singapore dollars to alleviate the problem going forward.

SCV is adjusting its future direction in other ways as well. It's opted against moving ahead with a joint-venture experiment with Microsoft Corp., which would have seen Microsoft supply SCV with advanced set-top boxes that

Continued on Page 32



River of Promi

Venezuela's interior

Consolidation has made Venezuela home to fewer pay TV players. But there's more to play for in one of Latin America's most colorful multichannel markets.

BY CONRAD DAHLSON

PAY TELEVISION in Venezuela today is like a dazzling piñata bursting with goodies. Spilling from it is a colorful array of new revenue opportunities, with telephony perhaps the most tantalizing prospect of them all. But it seems that only the big kids on the block, the ones with the heftiest sticks, are getting a good whack at the potential prizes, while the smaller, weaker ones drop out altogether.

Consolidation on the cable systems side of the business in Venezuela has taken a firm hold over the last 18 months. In that time, dozens of small, family-run multiple system operators (MSOs) have been swallowed up. The big three doing the devouring are SuperCable, Intercable and Cabletel. What's more, some predict a further shakeout is on the way.

"Venezuela will probably have two [cable] players," says SuperCable president, Ahmad Lee Khamsi. But whoever is left in cable also has to compete with a newer technology, direct-to-home (DTH) satellite television. There is currently one provider in the market, Galaxy Latin America's DirecTV, which is rapidly closing the gap on cable. With between 90,000 and 100,000 Venezuelan customers, it's on par with the subscriber counts of its cable competitors.

At the same time, DirecTV's News Corp.-backed rival, Sky Latin America, says it will enter Venezuela in the first quarter of this year.

Crucially, though, everyone's survival will depend on exploiting the pay TV advertising market. Here, too, a key decision lies up ahead as Venezuela's Supreme Court prepares to rule on the issue.

Whatever the outcome on that front, Venezuelan pay TV has proven its feistiness, even in the most volatile of situations. Last year, tumbling oil prices and high interest rates pummeled the country's economy. It became even more jittery when a political wild card blew into last year's presidential race in the form of Hugo Chavez Frias. But since winning the December election, the staunchly nationalistic and populist Chavez has gone some way to calm fears, particularly those of foreign investors. During his election campaign, his supporters went so far as to place his picture near Caracas' Hotel Tamanaco, a favorite of international business travelers, with the words "Don't be afraid."

Despite the country's future political uncertainties and persistent economic hardships, Venezuelan pay TV is chugging along with substantial gains. Last year, the subscriber base grew roughly 60 percent, to 500,000 homes from between 300,000 and 350,000 homes. That's according to Alberto Arapé, president of the Venezuelan Pay TV Chamber, or Cavetesu.

Arapé remains optimistic, predicting an increase in cable penetration from 12 percent to 35 percent over the next two years. Others, like DirecTV Venezuela's executive president, Victor Ferreres, say that figure is much too optimistic. He considers 25 percent penetration by 2001 more likely.

One thing is for sure: There are fewer players today than in recent years. A steady stream of buyouts and closures that began in 1997 has condensed the operator base. Many small, family-run operators, both licensed and unlicensed, have been acquired by leading players. Last year, Intercable bought 14 cable companies, while Cabletel acquired nine. Others have been forced out of the market in a different way, with several pirate companies being closed down by the government-backed Anti-Piracy Command.

The landscape of players could shift again. Last year, there was talk of a merger between Intercable and Cabletel, which is owned by Venezolana de Informática y Telecomunicaciones (Veninfotel). However, sources close to the situation reveal that those talks are now tabled because neither side could agree on price. Remarks by Intercable's director, Eduardo Stigol, suggest that the whole deal remains on hold.

"Yes, we have talked to Veninfotel, as we might to any competitor," he says. "But right now, no agreement has been reached. The door is open." Certainly, Intercable, based in the western city of Barquisimeto, has been scrambling up an impressive growth curve, boasting 100,000 subscribers. Stigol attributes the company's fivefold increase in subscribers over the last year largely to its strategy of acquisition.

Today, the company operates in almost 30 cities, and plans to launch in 15 more this year. Backing its expansion is the Dallas-based private investment firm Hicks, Muse, Tate & Furst Inc. The firm, which over recent years has aggressively expanded into media in Latin America and the U.S., bought a minority stake in Intercable a year ago.

Expansion is also the order of the day over

at SuperCable, where Khamsi currently claims more than 110,000 subscribers.

Cable operators tend to talk as if their business were the only game in town — but that may be a dangerous supposition. DTH is shaping up formidably, according to DirecTV's Ferreres.

That company also counts the backing of Venezuela's largest media company, the Cisneros Group of Cos. And there's little wonder that between 1997 and 1998, the company doubled its subscriber base in Venezuela to 90,000. Officials there expect that sometime before the end of next month, it will pass the 100,000-subscriber mark.

Sky Latin America, meanwhile, says it will launch in Venezuela in the first quarter of 1999, although it has not yet named a local partner. Its preparations could not have been helped by the nervousness surrounding the election of Chavez, which led many foreign investors to put their plans to expand in Venezuela on hold.

DTH's growing strength in the country can be measured not only by subscribers but also by revenue. According to data from Cavetsu's Arapé, the Venezuelan pay TV industry generated $US140 million in revenue. Cable accounted for $US84 million of that, while the remaining $US56 million was shared equally between DTH and wireless-cable operators.

Competition among the cable operators themselves is stiff. Overbuilding is intensifying in Venezuela, with SuperCable and Cabletel dueling over the west side of Caracas and the city of Maracay. In the cities of Valencia and Barquisimeto, Cabletel — aided by its purchase of Citycable — is going head-to-head with Intercable.

Sizing up the strength of the country's cable operators can't be done simply by comparing their subscriber bases. Intercable, for example, added the most cable customers in 1998, but it has not seen a proportionate growth in its revenues. Stigol says its 100,000 subscribers represent 40 percent of the market, but that the operator doesn't have 40 percent of cable revenue.

This can only be explained by Intercable having a lower revenue-per-subscriber return than other MSOs in the market. Khamsi believes he knows why. He claims that SuperCable's cash flow is at least three to four times that of Intercable. "We don't undercharge," he says. "We are more expensive, yet where we compete, our market share is bigger." He says that more than 50 percent of Supercable's subscribers buy a premium package.

That scenario could change, however. In the past, Intercable has largely exploited its superbasic package, but it is pushing to boost per-subscriber income. This month it hopes to offer Playboy TV and premium-programming packages in 10 cities, aiming for a penetration of 20 percent of subscribers at an average cost of $US9 per month. Average revenue per subscriber is $US25 per month, but Stigol believes that with upgrading this year, it will grow to about $US30.

Somewhat ironically, in banking on Playboy to expand its revenue, Intercable is relying on the property of a competitor. Cisneros Television Group, a unit of DirecTV backer CGC, owns a big chunk of the bunny network outside the U.S.

Advertising is another obvious revenue stream for pay TV. But perhaps it is not so obvious in Venezuela, which is the only country in Latin America where MSOs are not allowed to sell commercial space. "It's ridiculous when you think of it," comments Evelyn Gonzalez, general director of Cavetesu. "[Venezuela] is the only country in the Western Hemisphere outside of Cuba where it is illegal for MSOs to sell advertising space."


STIGOL


DirecTV's Caracas broadcast center

Understandably, it is an issue that deeply rankles the MSOs. But for the most part, they continue to sell advertising. SuperCable and Cabletel have carried out advance sales of advertising time for the last two years, while Intercable began selling ad avails at the end of 1998. According to Ferreres, DirecTV limits advertising to exclusive special events such as big-league baseball and Italian and Spanish soccer.

Many of the pay TV companies that have chosen to sidestep the ad ban reason that the issue is in a legal gray area. To clear up ambiguities on that score, the industry is awaiting the Supreme Court's ruling on advertising over pay TV. In the meantime, however, companies risk punishment if the authorities believe they have overstepped the mark.

That was the fate of Omnivision. This wireless-cable operator thought it was protected by a court order when it began transmitting commercials last year. But government agents moved in last October and confiscated its transmitter equipment, and closed it down on grounds that it had broken the law. Omnivision managed to reopen soon after that, but its legal battle and the fate of its pay TV business are in the hands of the Supreme Court.

Khamsi believes that cable advertising will be much more aggressive if restrictions are lifted. If and when pay TV advertising is given the green light by the government, Venezuelan cable should receive 20 percent of its revenue from ad sales, while DTH should get about 10 percent, Arapé says. If the industry doubles its number of subscribers in two years, he reckons that would garner the pay TV industry some $US60 million in advertising revenue.

Intercable's Stigol sees advertising income as a way to increase his programming budget without boosting subscription fees. He would like to see advertising revenue eventually bring in some $US1 to $US2 per subscriber per month.

As foreign investment goes, though, there are some very definite limits. Regulations for pay TV in Venezuela are the same as they are for broadcast TV, and state that companies in the industry must be 80 percent owned by local interests. In many cases, the ownership structures directly follow this 80-20 split. SuperCable, for example, is 20 percent owned by Adelphia Cable Communications of the U.S. Another 20 percent belongs to Ecuador's Eljuri Group, which is considered a domestic shareholder since Ecuador, like Venezuela, is a member of the Andean Pact trade bloc. Intercable, operated by Argentina's Compañía Internacional de Telecomunicaciones (CIT), declines to disclose how much Hicks, Muse owns, although the stake is believed to be around the 20 percent limit.

Veninfotel, the company that owns Cabletel and its Net-Uno Internet division, also boasts foreign backers, including American Express and Merrill Lynch & Co. DirecTV is operated by Galaxy Entertainment of Venezuela, a division of Galaxy Latin America, which, in turn, is majority owned by Hughes Electronics Corp.

Foreign investment interest is obviously there, but to increase it further, various industry bodies in Venezuela, like Cavetesu, are lobbying for a change in telecommunications legislation. They want MSOs to be able to operate as full voice, data and video communications companies.

That could become a reality next year, if the recommendations from José Miguel Padrón, president of the National Telecommunications Commission regulatory body, are adopted. Padrón recommends that cable TV and cellular-telephony companies be allowed to bid on basic, fixed-line telephony licenses once the monopoly of Venezuela's national telco, Compañía Nacional de Teléfonos de Venezuela (Cantv), legally ends in November of 2000. If that happens, Arapé contemplates a scenario of his own.

"We cannot discount a direct cooperation among the three principal [cable] operators — SuperCable, Intercable and Cabletel — to bid for a basic telephony concession from the year 2000," he says. "Combining the infrastructure of these three companies would constitute the third-largest telephone system in the country after Cantv and [cellular operator] Telcel," he says.

Besides telephony, what other revenue opportunities are plausible in Venezuela?

Cabletel provides Internet access over cable through Net-Uno. The TV and Internet-access package costs between $US80 and $US110 per month, while the Internet alone costs about $US60. The service began last year in a Caracas suburb, and last month was extended to the cities of Maracay and Valencia. Cabletel plans to add seven more cities by the end of the year.

Intercable is counting a lot on technology to get a competitive edge, chiefly using Scientific-Atlanta Inc. equipment, and working closely with the makers in planning the incorporation of future data, telephony and interactive services. It will offer Internet access during the first quarter of 1999 for about $US70 extra per month. Stigol forecasts that Internet charges will decline, possibly going as low as $US25 per month by the end of the year. The company is also getting ready to offer Microsoft Corp.'s Web TV Internet-over-TV service, which will be obtainable for a one-time charge of about $US350 for the decoder box.

Over at SuperCable, the testing of cable modems will start in the second quarter of this year. It is also investigating Internet-over-TV possibilities that it can offer over telephone lines.

According to Ferreres, DirecTV this year will announce it will offer services such as home banking and home shopping. DirecTV also plans a Latin America-wide version of its DirectPC Internet-over-TV service. DirectPC is currently available in the U.S., and boasts a bandwidth 10 times that of copper telephone wires.

For all the plans Venezuela's pay TV players have up their sleeve this year, there are some factors that lie outside their control. Top among them is the economic outlook.

"This year depends more on the economic situation than on our efficiency or reinvestment capability," says Stigol. Khamsi, meanwhile, reckons the pay TV market is solid enough to hold up, come rain or shine. "If we have an economic upturn, business will be great," he says. "If there is a downturn, business will still be great, albeit with ambitions ... slightly tempered." ■

Russia's
Rocky Road

Despite economic setbacks and the ruble's crash last year, pay TV projects are moving ahead in cable, satellite and MMDS

By Andrei Zolotov Jr.

JANUARY MARKED A NEW PHASE in the development of Russia's media industry. Despite the depression of the business following the economic crisis that began last year, the country's first national satellite television system, NTV Plus, began transmitting new digital channels to the proud owners of 60-centimeter (24-inch) dish antennae, which have sprung up on the balconies and outside the windows of Russian homes over the past two years.

NTV Plus Digital is a revamp of NTV's analog service, and will eventually carry about 30 Russian and foreign channels. The new service became possible due to the launch on Nov. 22 of the Bonum-1 satellite, the first privately owned Russian communications satellite. The bird was built by Hughes Space and Communications Co. for NTV Plus' parent company, Media-MOST.

The $US150 million project was financed by the U.S. Export-Import Bank with guarantees from the Russian government, and it marks the largest single investment in multichannel television in Russia. By Jan. 1, the satellite, as well as the $US20 million uplink center outside of Moscow, had been tested. Then, NTV Plus began digital transmission of a new package of locally originated channels featuring Russian and foreign films, sports, music and erotica. On Feb. 1, it began beaming another 10 channels, including VH1, Discovery Channel, Animal Planet and Nickelodeon.

"Our project is doomed ... for further development. So much is already committed to it that we cannot retreat," says Yevgeni Yakovich, general director of NTV Plus.

His ironic tone is indicative of the quandary faced by TV executives and investors involved in the region. In the middle of a seemingly stable 1998, they had business plans to launch large projects with the aim of

Political turmoil gripped the then-Soviet Union in 1991 during a coup attempt. Political — and economic — uncertainties continue in today's Russia, but pay TV is pushing forward.

breaking even in three to five years. Today, because of the ruble's subsequent collapse, Russians' incomes have dropped dramatically. Investors are now uncertain when they will be able to get their money back, but they continue to forge on — in part because they had invested before the ruble's drop.

That said, the sheer size of Russia makes it a challenge similar to China, in that it holds huge potential amid seemingly insurmountable economic and political obstacles.

The country has more than 150 million people, and 99 percent of Russian families own a television set. Though Russia's biggest cities can boast up to 14 terrestrial television channels as a result of the media boom over recent years, the vast majority of the population can still receive only three or four channels — as had been determined for them by the Soviet-planned economy.

Some investors see the situation as an opportunity to develop a whole new industry from scratch. Dick Sherwin, co-president of United States-based Metromedia International Telecommunications Inc., says that since 1991, when its first Russian TV venture, Kosmos TV, came into being, the company has invested about $US40 million in Russian communications. That's out of a total $US165 million that Metromedia has put into Eastern Europe and the Commonwealth of Independent States.

In the region, Metromedia Group owns, through joint ventures with local businesses, multichannel multipoint distribution systems (MMDS) and cable operations, as well as radio stations and paging services. Metromedia claims a total subscriber base of about 500,000 across its full range of services.

Those projects were under way before the onset of last fall's economic crisis, which has seen the value of the ruble slide by more than two-thirds, and has put a brake on several commercial projects. Other investors are understandably disappointed, but undeterred.

"You can't start hesitating every time something is happening," says Chris Wronski, CEO of London-based Zone Vision Group of Cos., which specializes in distributing satellite television channels in Eastern Europe, especially for U.S.-owned programmers. "If not for the crisis, we would have seen vast growth in 1999, but no one is going to stop because of economic problems."

Zone Vision claims to have "contract relationships" with sys-

"If not for the crisis, we would have seen vast growth in 1999, but no one is going to stop because of economic problems."

— Chris Wronski,
CEO, Zone Vision

tems that serve more than 1 million cable homes in Russia.

In another sign of investors' confidence in the potential of the Russian market, MTV launched a Russian version in September. That's important because, around the world, many programmers wait for MTV to jump first into a new region, then follow with their own channels.

But one of the biggest plans on the boards is the Moscow city government's $US1 billion project to install a state-of-the-art cable system throughout the Russian capital, which the government says it won't abandon in light of the economic crisis.

"There is no doubt in my mind that Russia will have multichannel television fairly soon," says Bill Roedy, chairman and president of MTV/VH1 International. He believes the Sept. 25 launch of MTV Russia — just a month after the ruble's crash last summer and as the crisis was hitting full swing — was "a good show of confidence" in Russia.

However, one only needs to look at the pictures of Russian poverty shown in newspapers around the world over the last few months to be aware that multichannel TV is an extravagance for many in the country.

Few people can afford to pay hundreds of dollars in installation fees in addition to monthly subscriber fees, which range from less than $US10 to as much as $US40 per month. Of the 180,500 families that each paid $US199 for an NTV Plus 60-centimeter dish and analog decoder since late 1996 — when this DTH project first launched — only 120,000 are currently paying their $US15 monthly fee, according to Yakovich.

Nonetheless, the company plans to sell 180,000 new digital packages at $US18 per month in 1999, Yakovich says. Existing customers will pay $US110 to upgrade their equipment, while others will either have to buy the new decoder for $US400, or make the down payment of $US150 and pay the rest off in monthly installments of $US5 to $US6, he adds.

Nikolai Orlov, chief editor of the *Telesputnik* satellite-television trade magazine, thinks that Yakovich's subscription projections are too high. But he contends that about 100,000 other homes in European Russia own larger antennae, and receive programming from the Eutelsat Hot Bird and other foreign satellites. About 20 MMDS systems are presently active in Russia, he adds. Some of them are modern systems offering more than a dozen channels.

Indeed, when Soviet control of the media collapsed, small, private cable networks sprang up all over the country transmitting pirated videos and amateurish local news through the existing "collective reception systems" for one building or a block of buildings in big cities. Later, some of them obtained a dish and started to receive free or pirated programming from foreign satellites. Others, such as Channel 4 in the Ural Mountains city of Yekaterinburg, developed into modern, professional channels.

But the vast majority of what are called "cable systems" in today's Russia don't fall under the term's definition in the West; they simply re-distribute three to 14 terrestrial channels from a rooftop antenna to the varying number of sockets in people's apartments.

DTH satellite television was first introduced in the early 1990s. There was a bit of a revolution in 1995, when the launch of Hot Bird 1 enabled 1.5-meter (5-foot) antennae in European Russia to receive dozens of unencrypted foreign channels, such as BBC World, Deutsche Welle, Arte, TV-5 and Eurosport.

In Siberia, however, where one needs a larger dish, multichannel television is even less available to general audiences than it is in the European part of the country.

The next big step came in 1996, when Vladimir Gusinsky's Media-MOST launched its NTV Plus project, which was initially transmitted in analog from Russian Gals satellites. Media-MOST is Russia's largest private media company, and owns popular terrestrial channel NTV, the THT television network, radio stations and a group of Moscow-based publications.

While the national system of broadcast television is quite well structured and competition unfolds among several major players, the world of pay TV is much more chaotic and fragmented in Russia. Its legal framework is underdeveloped, experts say. But, at the same time, the industry is still not filled, and new players keep appearing on the scene to try to take advantage of the wide-open market.

Mikhail Seslavinsky, chairman of the Federal Service for Television and Radio (FSTR), Russia's federal regulator for electronic media, says about 300 cable systems had licenses as of December. But their actual number is much greater, he says, and many of them still engage in piracy — despite a consistent effort on the part of government and broadcasters to curb the practice.

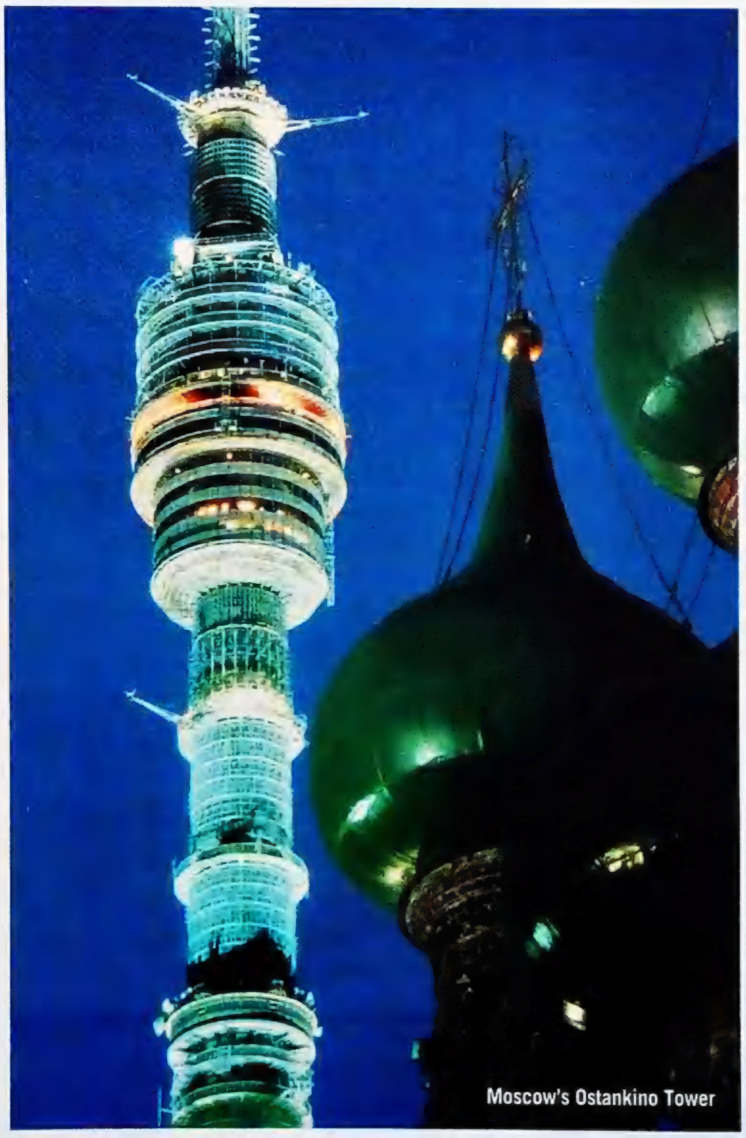
"It is hard to follow them and catch them, but we do it when we can," Seslavinsky says. Many cable operators simply cut deals with local governments or district administrations.

According to *Telesputnik*, some of the largest private cable systems in Russia are Garant TV in Yekaterinburg, with about 100,000 wired homes; ATK in the northern port city of Arkhangelsk; Komkor in Moscow; Lenka TV in St. Petersburg; and TVK Avto-VAZ in Togliatti. Their subscription fees are about $US1 a month.

As in other regions around the world, there are many barriers for pay TV to overcome in Russia before the industry can kick off. The average Russian is not accustomed to paying for television, and doesn't even know that he or she can receive more than three or four channels.

Another problem is collecting payment from subscribers. What is easily done in the West by a credit-card payment or direct bank debit, in Russia involves an underdeveloped banking system with less efficient means, especially since the ruble's crash.

At least one indicator of the state of the industry comes from figures on the sales of satellite and cable equipment. Boris Sarapulov, general director of Belka Corp.,



Moscow's Ostankino Tower

one of the leading companies in the industry, says three wholesalers, which act as middlemen between Western producers of television equipment and their Russian customers, dominate the national market. He claims that General Satellite, Universal Communications and his Belka together have 70 percent of the national market.

They sell not only satellite and cable equipment, but also professional-quality receivers and transmitters for regional-television companies in Russia's vast provinces. Before Russia's August default on its domestic debt, Sarapulov estimated that the three companies were on track to yield combined revenues of $US15 million to $US20 million in 1998. But, after the stock market, currency and debt meltdown on Aug. 17, sales dropped by 40 percent to 50 percent, he says.

The Soviet Union's vast military-electronics industry has proven practically unable to convert to the production of consumer goods. There is one exception, however. According to Sarapulov, the Supral factory in the Volga River city of Ulyanovsk has an 85 percent to 90 percent share of the national market for dish antennae. Sarapulov says that, after August's shock, individual customers had to give up their plans to buy TV equipment, while corporate clients were unable to process their payments through the stalled banking system.

The market, however, started to pick up in December, he says, forecasting that in 1999 the three leading companies will have combined sales of $US10 million to $US12 million, still down by 33 percent to 40 percent from last year.

With 3.5 million households and an average income that is several times higher than the rest of the country, Moscow is Russia's leading market for pay TV and related communications services. It is also one of the few places in Russia where an actual competition exists between the 14 terrestrial channels, NTV Plus, the multichannel Kosmos TV and a budding local multipoint distribution services (LMDS) system.

Moscow's market is also important for investors as a testing ground for what provincial cities will see in three to five years.

As is the case with bustling real estate development and reform of the utilities system, Moscow's communications industry is strictly controlled by City Hall under the powerful mayor and presidential hopeful Yuri Luzhkov. It has virtually monopolized the outdated cable systems, which are capable of carrying only 14 channels, under the auspices of the giant city-owned cable operator Mostelekom.

MTV/VH1 International chairman and president Bill Roedy (left), MTV Russia chairman Boris Zosimov, MTV Networks chairman and CEO Tom Freston, and MTV Russia president Boris Kaz.

In May 1998, the city government adopted a grand, five-year project to create a broadband interactive communications system throughout the city.

Yuri Berbikov, deputy chairman of the Moscow City Committee for Telecommunications and Media, says that the government plans to wire the city with broadband cable capable of providing up to 200 channels of digital television, Internet access and alarm services.

Metromedia's Dick Sherwin says that since 1991 his company has invested about $US40 million in Russian communications projects.

The system is also supposed to provide automatic processing of electricity, water, heating and gas bills. In the future, although the timetable is unclear, the system will carry telephone signals and create a data network for city district administration, police precincts and tax-inspection offices.

In addition to the terrestrial Center TV channel, which Luzhkov launched amid much pomp in 1997, the same studio currently produces a cable version, called Stolitsa, or Capital City. It is transmitted by an MMDS operation from the Ostankino television center, and regional operators include district news programs produced by 67 small studios.

Attempting to turn backwardness into an advantage, the city government wants to install a state-of-the-art communications system — leaping over the earlier types of such systems — similar to what can be found in Western capitals.

"Moscow is facing a task of a global scale: to radically solve the problem of television reception and, along the way, find solutions to some major problems of the city economy," Berbikov says.

Such a mammoth task would require a currently unrealistic investment of about $US1 billion. But the city government is so eager to kick off its project, that it is even willing to surrender some of its much-treasured control.

According to Berbikov, the city would offer shares to direct investors, but would still prefer cash or commodity loans, and it would insist on holding a controlling stake. Scouting for potential investment, the city government is targeting media investors such as Metromedia, as well as equipment producers such as Siemens A.G. and Harmonic Lightwaves Inc., which could supply hardware on a lease basis, Berbikov says.

Across the Moscow River from Berbikov's office is the prestigious Dorogomilovo district, where Mostelekom contracted last year for the Finnish company Teleste to install a broadband hybrid fiber-coaxial (HFC) network for 10,000 subscribers. The project cost about $US2 million, roughly 30 percent higher than a commercial rollout because of the small scale of the test, Berbikov says.

Some 32 channels and Internet access are available to lucky users for free. A larger pilot project is currently underway in another area, Khamovniki, where private operator Komkor is installing a broadband system for 30,000 subscribers.

"It is a fabulous idea, but I don't see how it can be accomplished right now," Sherwin of Metromedia says about Luzhkov's project.

Sarapulov, of Belka, says that Luzhkov's obsession with government control will be an obstacle to the development of multichannel television in the city. "It would be successful if companies had equal access to it," he says. "The main [obstacles are] personal connections and money drowning in direct and indirect bribes to city bureaucrats."

Sherwin says that the complications of dealing with local bureaucracies are among the primary reasons why his company has worked in Eastern Europe through joint ventures with local companies. Metromedia contributes the capital equipment, training and management, while local partners obtain all licenses and permits, and contribute local facilities.

In 1991, Metromedia pioneered the Russian multichannel systems market with Kosmos TV — a 50-50 joint venture between Metromedia's subsidiary International Telcell Inc. and Russia's state-owned Main Television and Radio Center (GTsRT).

By 1997, Kosmos TV claimed to have 17,000 subscribers from among Moscow's better-off clientele of expatriates and rich Russians, who were able to pay $US40 a month for a package of Western channels such as CNN International, BBC, MTV Europe and Eurosport.

But the company's development was virtually paralyzed in 1997 when Kosmos director Alexander Lapshin refused to step down after being fired by the board of directors. The dispute between shareholders and Lapshin became a high-profile case of how a foreign investment in Russia can go sour.

At times, the renegade director barricaded himself in the company offices, seized the database of customers and won several cases against his employers in Russian courts. In January 1998, Lapshin finally stepped down for what was seen by industry insiders as a cash settlement.

When the conflict was over, the company began to offer lower-priced packages in March 1998, aiming to correct its "mistaken" policy of targeting the luxury market, Sherwin says. He adds that Kosmos TV today offers a package of 16 channels for $US8 per month after a $US59 sign-up payment. For another $US10, subscribers can buy 20 additional channels, Sherwin says. Also in 1998, Metromedia launched Teleplus, a similar 50-50 joint venture in St. Petersburg.

Kosmos TV initially had to target only audiences such as Moscow's expatriate community not just because of their higher standard of living and disposable income that could be spent on a luxury such as multichannel TV but also because of the lack of Russian-language channels.

However, over the past two years, the situation has started to change thanks to the expansion of new Russian TV players NTV Plus and Zone Vision. Together, the two parties have helped launch several Russian-language channels now available on multichannel services.

Zone Vision's Wronski says his company owns post-production facilities in Russia, Poland and Hungary — locations where it started to produce Russian-language versions of Discovery Channel, Animal Planet, Eurosport, Travel Channel and Hallmark Entertainment Network in 1997. It also produces its own Russian-language soap-opera channel, which premiered on NTV Plus this year, and an erotica channel called Babylon Blue. Zone Vision plans to introduce a Russian version of E! Entertainment Television this year.

Eurosport is already collecting revenue in Russia, Wronski says, while Discovery is still being offered on a free trial basis.

In assessing the landscape of the Russian market, he is obviously disappointed with the economic downturn, which will slow the development of multichannel television. However, Wronski is optimistic about the pay TV prospects in Russia, and predicts that the crisis will bring down consumer prices, which had been high in Russia compared to other Eastern European and CIS countries.

That, in turn, may eventually result in greater take-up rates for multichannel TV, when the economy starts to pick up over the next few years. ■

Multichannel NEWS International
THE WORLD'S SOURCE FOR TV AND TELECOM ANALYSIS

1999 Guide to

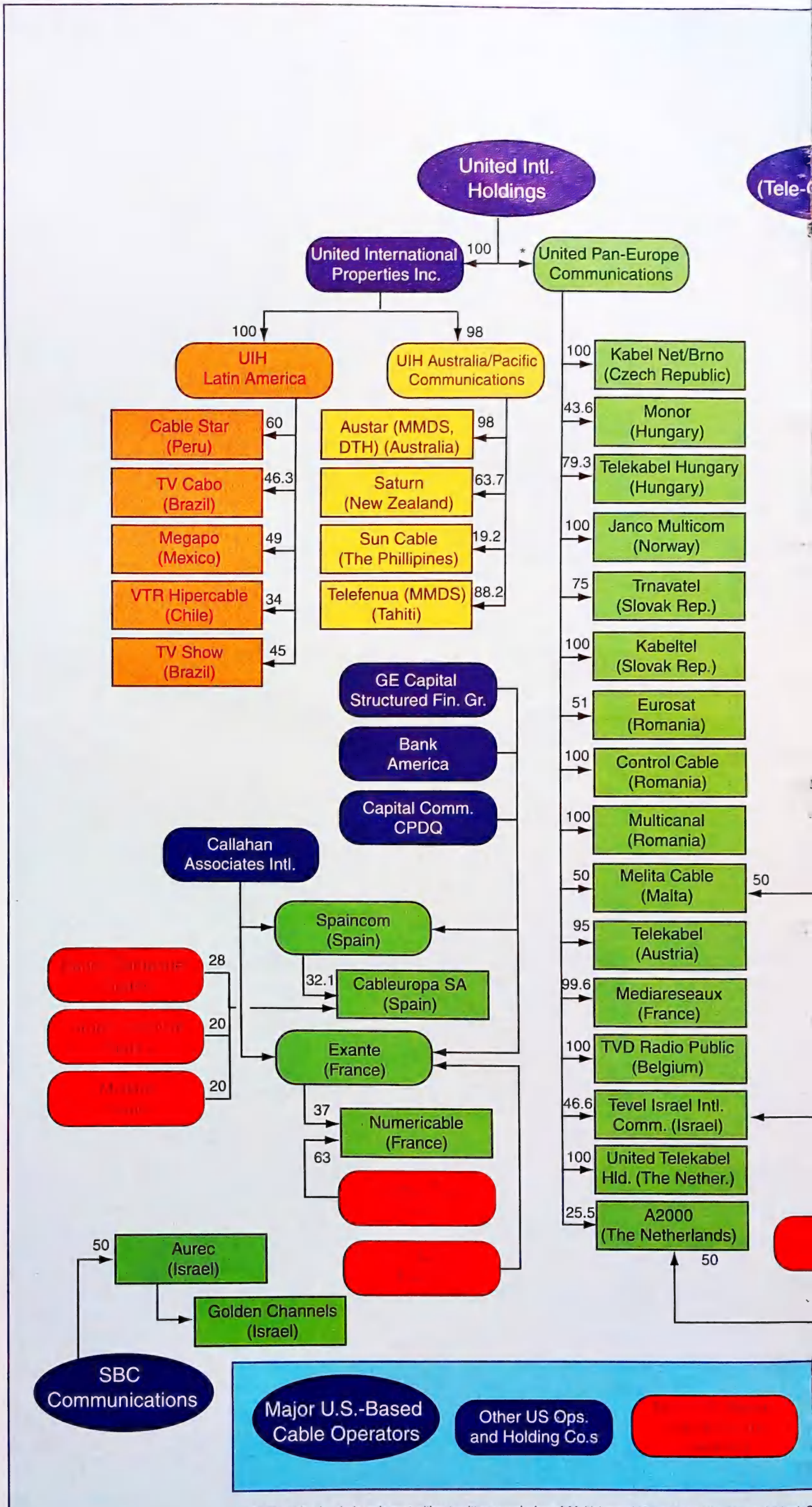
United States Overseas Systems Connections

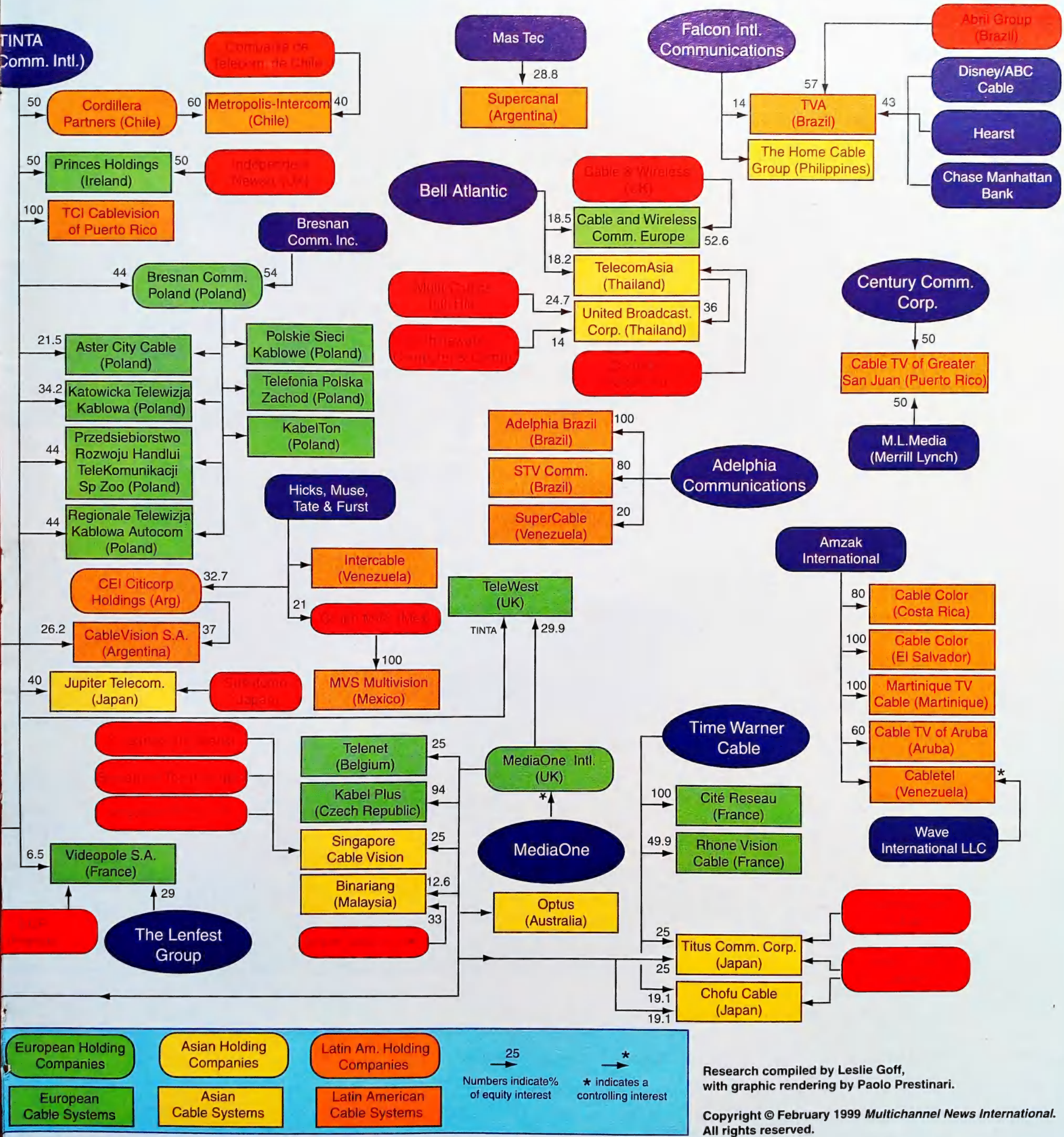
The United States-based companies that own cable systems outside of the country have been busy over the past year shuffling the assets in their portfolios.

Some have sold significant stakes in one region in order to increase their holdings somewhere else in the world. Others have sold some stakes to apply the funds to upgrades at their U.S. systems.

Here we present our second annual mapping of the connections between U.S.-based cable operating companies and their international systems. U.S.-based companies that do not have holdings in American multiple system operators are also included.

The chart was researched by Leslie Goff and graphically rendered by Paolo Prestinari.





Research compiled by Leslie Goff, with graphic rendering by Paolo Prestinari.

hart only includes non-U.S. majority investors that were identified as partners by U.S. investors. February 1999. For reprints, call (1) 212-463-6740.

Multichannel News International CED
BROADBAND INTERNATIONAL
Tracking Global Technology Developments in Voice, Video and Data

Japan's Risky Business

The contradictions that define Japanese life and culture are many and varied. The seemingly incongruent confrontations in a society that counts its history in many thousands of years — yet which is a global pacesetter technologically and (sometimes) economically — are a marvel to behold. Seeing women dressed in traditional geisha garb alongside Japanese men wearing Western-style suits is another reminder that the culture has several facets.

BY ROGER BROWN

IN SYNC

All of these dichotomies have been written about in several forums. But, perhaps, few have noticed that the same clash of "traditional" and "modern" spills over into the country's communications industry.

The nascent cable TV industry is a case in point. As pointed out in the story on this page, the cable industry, as it's defined in most quarters of the globe, was a latecomer to Japan. Up until the past few years, cable systems were required to have several owners, and funding had to come purely from Japanese sources. As a result, the industry was slow to develop.

U.S. cable powerhouses Tele-Communications Inc., Time Warner Cable and MediaOne have only recently been allowed to invest in Japanese cable systems, but they've done so with gusto. Although their strategies have varied widely, they appear to be in the industry for the long haul. That's somewhat surprising, given they are struggling against seemingly large odds to increase their market share and bring new services to Japanese consumers. Privately, representatives from the two major operators those companies have invested in — Titus Communications Corp. and Jupiter Telecommunications Co. Ltd. — grumble about the roadblocks that prevent them from growing at a rapid pace.

That's puzzling, given Japan's reputation for patience and long-range thinking. Government forecasts call for 60 percent of the country's homes passed by cable to be cable customers by 2010 – an incredible target, considering it took the U.S. cable industry 40 years to reach that level of success. Of course, that's an apples-to-oranges comparison, because it required the advent of satellite communications for the U.S. cable industry to be able to offer an appealing programming lineup to urban dwellers.

However, one fundamental lesson still applies. In the U.S., media entrepreneurs gambled their life savings to develop new, differentiated programming, and cable operators were willing to provide a home for those programs. This resulted in compelling "cable-only" fare that attracted new cable customers, and kept them tuned in. This same spirit and risk-taking appears to be missing in Japan. Until that changes, the government may not see the cable industry reach the lofty goal it has set — for a long time to come.

Pressure on All Sides

Running a Japanese cable system is no easy matter

BY ROGER BROWN AND LESLIE ELLIS

Utility poles in Japan are overcrowded with wires, making MSO buildouts complicated and expensive.

Despite Japan's status as a mecca for high-tech gadgetry and cutting-edge electronics, it appears that nothing about the country's cable industry has captured the imaginations of local consumers. And that's left the broadband market lagging behind its strong competitors in the battle for eyeballs.

In fact, Japanese cable operators say they feel pressure from every possible direction. Construction costs are exorbitant, penetration rates hover at 20 percent or lower, and competition for pay television revenues comes not only from the country's largest government-funded broadcaster, but from digital direct-to-home (DTH) satellite contenders.

What's more, the cable industry arrived late to the Japanese pay TV party, weakening its ability to fend off digital DTH offerings when they arrived.

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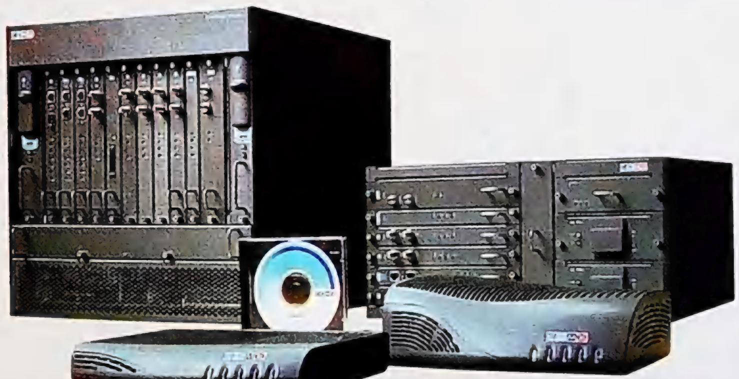
Data Delivery the U.K. Way

BY HANK HOGAN



Com21's CommUNITY Access System

On the surface, it seems that the large cable operators in the United Kingdom — Cable & Wireless Communications plc (C&W), Telewest Communications plc and NTL Inc. — have embraced the broadband digital and data revolution. They appear ready to embark on new ventures, to sail boldly into the next century.

"We have a whole raft of services, which we plan to introduce from the middle of this year going forward," says C&W spokesman Roy Payne.

Adds Telewest spokesman Stephen Powers: "This year we'll be launching a swath of digital-TV and data services. They're all part of a common plan we have as we put our digital platform together."

For its part, NTL last year acquired the rights to NetChannel UK Ltd., the data-over-television venture similar to Microsoft Corp.'s WebTV. At about the same time, NTL also announced the launch of digital services on a nationwide basis to provide consumers with telephony, Internet access and, beginning in 1999, digital television. And don't forget Microsoft Corp.'s $US500 million investment in NTL last month, aimed at advancing broadband offerings.

Continued on Page 28

Japan,

Continued from Page 23

"This market is much different than the U.S., because in the U.S., satellites came after cable had 60 percent penetration," notes Shunzo Yamaguchi, vice president of engineering and technology for Jupiter Telecommunications Co. Ltd., the multiple system operator (MSO) owned jointly by Tele-Communications International Inc. and Sumitomo Corp.

Although there are 973 cable operators in Japan — including "shadow" operators that exist solely to rebroadcast the signals of the state-run NHK broadcast network that are blocked by high-rise buildings — only about 100 showed a positive net income in 1998. That's according to market statistics provided by the Ministry of Post and Telecommunications (MOPT) regulator, based on data from the giant Itochu Corp., which, in addition to being a hardware supplier, owns part of Japanese MSO Titus Communications Corp.

The low penetration rates stem in part from a sort of honor system that keeps Japanese TV watchers loyal — at least with their wallets — to NHK, the country's most-watched network. Each month, Japanese residents are asked to voluntarily pay 1300 yen ($US11.44) to NHK in exchange for its commercial-free programming. True to the Japanese culture, a majority of the country's residents pay the fee.

Cable operators that carry NHK then must add their $US30 to $US35 monthly fees on top of the broadcaster's monthly charge, making the monthly cable subscription quite expensive. The result is a less-than-stellar penetration rate for both Jupiter and Titus.

"When we started, we hoped for 30 or 40 percent penetration, but that was probably too ambitious," concedes Jupiter's Yamaguchi from his office near the top of the Tokyo Opera City tower. However, he says he's still confident that the Japanese market will one day climb to those penetration levels.

And then some, agrees Lee Daniels, the affable president and chief executive officer of Titus, the MSO located across town from Jupiter that is owned by Time Warner Inc., Toshiba Corp., Itochu and MediaOne International. In fact, Daniels is so energetic about an ever-stronger broadband market in Japan that he says now is the time to expand. "It's a perfect time for market expansion, if somebody has the confidence to do it," he says. "There will be fire sales," as small operators sell out to bigger, acquisition-minded MSOs.

At the root of his optimism is the potential for the combined offering of the three big advanced-services: voice, video and data. Daniels calls it "multimedia." "If we can bundle, we can create a value that NHK; [national telco Nippon Telegraph and Telephone Corp.]; and the satellites won't be able to touch," Daniels says.

Before that can happen, though, MSOs throughout Japan need to install 750 megahertz plant that can handle bi-directional signal flow to and from homes and businesses. That process is well underway, Titus and Jupiter executives say, but it is expensive and riddled with regulatory hurdles.

Titus, which passes 846,000 homes and serves about 60,000 customers in six franchise areas, opted to build brand-new, 750 MHz, two-way plant in all but one of its franchises, Daniels says. His earlier comment about fire sales may, indeed, signal a change in strategy that will take the MSO from an all-newbuild strategy to one that embraces acquiring older plant that needs to be upgraded.

Jupiter, established in 1995, manages 23 systems that account for just

Continued on Page 26

Finally. A Cable Modem That Can Be Self-Installed.

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Japan,
Continued from Page 24
more than 200,000 subscribers, says Yamaguchi. Most of the systems Jupiter acquired were configured in 450 MHz, coaxial tree-and-branch topologies originally. The MSO is about halfway complete with 750 MHz two-way upgrades.

The two big MSOs took different paths to achieve the same 750 MHz, two-way end, with Titus starting from scratch and Jupiter upgrading. But both face similar technical and business challenges as they struggle for market share. For starters, because of the country's population density, most cable wiring is installed in high-rise buildings and multiple-dwelling units (MDUs). While that, in and of itself, is not uncommon throughout the world, there's a snag in Japan: For buildings in which the residents own the apartments, cable operators must convince three-quarters of the inhabitants to take cable service before they're allowed to wire the building.

"In Japan, 55 percent of the homes are in MDUs, and in Tokyo, 70 percent of the homes are in MDUs," says Yoichi Hiraoka, Titus' vice president of corporate planning. The 75 percent rule "makes it difficult" to penetrate those buildings, he adds. In addition, these high-rises are wired in series, which brings a tremendous noise burden on the return path that has to be accounted for, says Jupiter's Yamaguchi.

CONSTRUCTION ISSUES

That's just the beginning of Japan's construction difficulties, many of which are caused by layers of sticky regulatory tape. One example, says Jeff Frazier, assistant general manager of Titus' Chiba Center system, is the pole make-ready procedure. It's a relatively simple task elsewhere in the world, in which companies mark locations of cable poles and make sure they can accommodate additional wiring.

"It's actually one of the biggest challenges here, because in all of our networks there's been a vast amount of pole make-ready," says Frazier. That's because the poles are extraordinarily crowded with wires, transformers and boxes. As a result, electrical utilities are particular about what gets added to poles. That makes the approval process long, and the fees high.

Regulations stipulate that crews sent out to install wires on poles include two flagmen and a safety inspector. "It gets quite expensive when compared to the U.S.," Frazier says.

Kentaro Takahashi, general manager of Titus' Chiba system, adds that for each cable-outfitted pole, cable operators must send a photograph to the MPOT showing their compliance. "A guy has to stand next to each pole with a measuring stick that proves that our wires are 6.4 meters [21 feet] from the ground," Takahashi says. "It takes lots of paper," and lots of time. Compiling the documents for submission to the MOPT can take two to three months, and the review period can drag on for another three months.

Takahashi estimates that pole make-ready costs represent as much as 20 percent of total construction costs for cable operators.

Similar rules apply for road crossings, says Jupiter's Yamaguchi, who points out that some are controlled by the Japanese central government, while others are managed by regional governments. "It can take three months, sometimes, to get approval to cross a road," Yamaguchi says.

Both Jupiter and Titus executives say they assign much of their plant construction work to outside contractors, which can make for other interesting technical considerations. For instance, some contractors prefer to handlash cable wires to strand wires,

instead of using automatic, electric lashers.

"Some of our contractors had never run a lashing machine before. Their reaction was, 'You want me to lug that 90-pound machine? Show me that it's useful,'" Frazier says. Turns out, the locals were "equally effective with their own techniques — the network looks as good or better than any I've ever seen," he adds.

BRIGHT INTERNET FUTURE

Through all the ups and downs, Jupiter and Titus are heartily optimistic about the broadband networks they're constructing. Subscription rates are on a rapid rise, with Jupiter seeing a 41 percent increase between 1997 and 1998.

And advanced services will only make for a better overall package to compete against NHK and DTH. Atop of the list of attractive products are high-speed data services. "The Internet is a fever in Japan," says Jupiter's Yamaguchi. "Cable operators want to launch Internet services as quickly as possible."

Jupiter is diving headlong into high-speed data deployments, using equipment made by Terayon Corp., while Titus opted for Com21 Inc. gear in its Chiba data deployment.

Michael Benner, director of Internet network operations for Titus, says that the MSO also offers a dial-up Internet service, "so we can upsell customers to higher data rates."

Telephony offerings are in the mix, too, at the encouragement of the Japanese government. Nearly 20 cable operators have tested the service, but none other than Jupiter and Titus have made it available commercially.

That's because telephony-over-cable is a hard sell, they say. "The appetite for telephony is not as active, because of the huge capital investment" for constant-bit-rate phone services, also known as hybrid fiber-coax (HFC) telephony, says Yoichi Ohe, manager of Itochu's cable-TV business unit. Plus, he says, "Everybody has a phone" in Japan, and most have multiple lines.

But that's not stopping Titus' Daniels. "There is room for competition, especially in the local loop," he says, adding that while he doesn't discount the challenges, he's also "not as bearish on telecommunications as some."

Daniels thinks cable companies can compete heavily on a price basis. "This is a market where, if you wanted to install a phone line, you'd have to pay close to $US500 for a line, and that much again for a second line."

Regardless, Daniels is putting his bets on a strong future for Japanese cable. "The future is not cable-TV tunnel vision," he says. "It's multimedia, and we intend to be there every step of the way." ■

Japanese Cable Growth

Subscribers

1994	2.42 million
1995	3.14 million
1996	3.64 million
1997	5.00 million
1998	6.72 million

Franchises

1994	625
1995	740
1996	830
1997	937
1998	973

Penetration

1994	5.6%
1995	7.2%
1996	8.2%
1997	11.2%
1998	14.8%

Source: MOPT

U.K. Data,
Continued from Page 23

On that front, Alan Yates, director of platform marketing, Microsoft WebTV, says: "It's quite feasible that there will be significant services delivered in 2000."

But the U.K.'s current reality may not quite match the rhetoric.

"The Continent is actually much more advanced than the U.K. If you look at the markets in terms of cable modems, the U.K. is lagging [behind] most of Europe," observes Buck Gee, vice president of marketing for cable-modem maker Com21 Inc. Com21 claims the title of leading supplier of cable modems to Europe. According to Gee, countries such as France, Denmark, Holland and Switzerland all are better markets than the U.K. for Com21.

"U.K. cable-modem deployment is lagging behind Europe and other parts of the world," agrees John Matthews, principal consultant at the London-based research firm Ovum Ltd. Projections from Ovum show that U.K. cable-modem sales won't climb above 200,000 a year until 2003.

Slightly more optimistic figures are found in the International Cable Modems report from consulting firm Ryan Hankin Kent (RHK) Inc. of South San Francisco, Calif. But, even that report projects that annual U.K. cable-modem sales will run below 300,000 a year in 2003.

That compares with the more than 500,000 cable-modem subscribers in the U.S., who were already signed up by the end of 1998 to Road Runner and @Home Network, the country's two leading cable-data networks. To be fair, the U.S. is obviously a much larger country, with cable penetration that far outstrips the U.K. However, the existing subscriber base helps illustrate the U.K.'s lag just in rolling out products.

While Road Runner, which is owned by Time Warner Inc., is reported to be in negotiations with the U.K.'s leading cable operators, the speedy Internet-access service has not yet made it ashore. Neither has @Home, which plans to launch service in the Benelux countries in mid-1999.

Despite these less-than-ideal projections, it would be a stretch to say that there's no broadband activity in the U.K. British Telecom plc, the country's telecommunications giant, is actively backing G.Lite, the asymmetrical digital subscriber line (ADSL) variant aimed at the mass market. Northern Telecom Ltd., of Canada, and Norweb Communications, a business unit of U.K.-based United Utilities plc, jointly announced an innovative technology that allows data to be transferred at up to 1 megabit per second (mbps) over standard residential power lines. There also have been trials of cable modems, but they haven't been as extensive as ones elsewhere.

U.K. Forecasts

Two projections for U.K. cable-modem sales

Ryan Hankin Kent Inc.

Year	Units sold
1998	2,000
1999	48,000
2000	118,000
2001	181,000
2002	235,000
2003	272,000

Ovum Ltd.

Year	Units sold
1998	10,000
1999	10,000
2000	20,000
2001	40,000
2002	100,000
2003	210,000

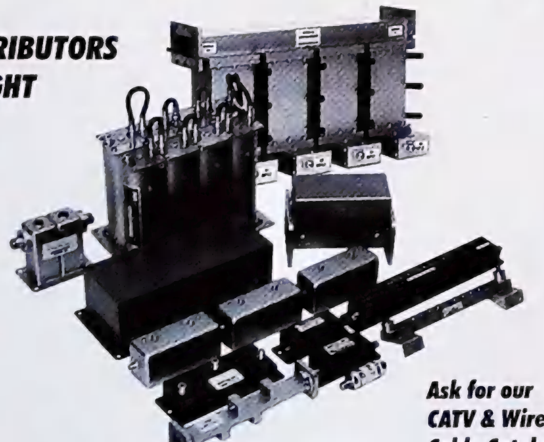
Claude Romans, director of Loop Access for RHK, thinks the relatively slow deployment of cable modems in the U.K. is the result of a mixture of technical problems and market conditions. "The controversy over whether to deploy a single set-top box for data and video or use a [separate] cable modem has permitted most U.K. operators to sit on the fence and watch other countries deploy cable-data solutions," observes Romans.

MSOs may now, however, be ready to hop off that technical fence. C&W, for one, has settled on an Internet protocol-based platform across its entire network. The company plans to deploy a product called DTV Navigator, a system based on the open HyperText Markup Language (HTML) and Java standards. What's more, at summer's end last year, C&W announced that the box would also contain a 1 mbps data modem based on the U.S. Data Over Cable Service Interface Specification (DOCSIS).

While there is work under way to develop a Digital Video Broadcast (DVB) compatible cable modem, C&W felt that a DOCSIS modem would be the only standards-based modem that would be ready to deploy in the time frame it desired. There was also the belief that DOCSIS would end up being more cost-effective because of efficiencies generated by the volume of sales in the United States and elsewhere. There was also the feeling that the modem technology matched the network better than anything else.

"If you've got a broadband network, you might as well put a powerful modem on the other end," explains C&W's Payne. That way, cable system operators can exploit the competitive advantage that broadband brings them.

Great Britain's Pace Micro Technology plc, the leading European set-top box manufacturer, is reportedly working on next-generation versions of its products that include either a DOCSIS- or DVB-compliant cable modem. But in the end, research firms like RHK think that DOCSIS will prevail. For its part, NTL initially will build upon a NetChannel model that allows Internet access through a television, over phone lines and using a standard dial-up modem. The company plans a broadband launch around March



Around The World

PACIFIC RIM

Titus Communications Corp.'s Allnet data-over-cable service has exceeded 1,000 subscribers in the first six weeks it was offered commercially in the cities of Kashiwa and Abiko, in the Chiba prefecture of Japan, the company said.

Titus president and CEO Lee A. Daniels said, "Titus hopes to expand Allnet services to other systems in the metro-Tokyo area next year."

Titus is working with local personal-computer retailers to demonstrate the speed of the new service in hope of attracting more subscribers. The company offers two types of Internet services: high-speed access with a cable modem, and dial-up service.

EUROPE

Tellabs Inc. said it signed a three-year contract, estimated to be worth more than $US150 million, with Priority Telecom to deploy telephony-over-cable services in the Netherlands and France. Priority Telecom is the newly launched competitive local-exchange carrier and integrated-telephony services division of United Pan-Europe Communications N.V. (UPC).

The system will be deployed over UPC's hybrid fiber-coax networks in Paris, France, and Arnhem and Eindhoven in the Netherlands. Priority Telecom will provide telephony services via cable-systems infrastructure owned and operated by UPC through Mediareseaux in France and United Telekabel Holdings in the Netherlands.

Tellabs and UPC have already teamed up in Amsterdam to deploy more than 20,000 cable-telephony lines. Also, Priority Telecom is presently delivering telephony services in Norway using the Tellabs system.

The deal will increase the number of homes passed by Tellabs cable-telephony equipment to 2.2 million, according to Tellabs executives.

AFRICA

Spike Technologies Inc. has tapped Integrity Communications Inc. to supply broadband data modems for deployment in Ghana.

The Integrity broadband modems will provide high-bandwidth-dedicated links to commercial and government users via Spike's PRIZM point-to-multipoint radio and antenna equipment. This integrated technology provides multiple two-way links for premium high-speed data services at rates many times faster than conventional T1-based services.

Spike designs and manufactures broadband, bi-directional, fixed wireless-access communications systems for the delivery of voice, video and data.

1, with interactive television services such as on-line banking and air-travel ticketing. However, initial plans are to use the phone lines for the entire data path, with a switch to faster connections at some undetermined point in the future.

The combination of information, entertainment and services planned by NTL is similar to what C&W envisions. Payne says the real draw of such a network will be its ability to enhance lifestyles, as opposed to its state-of-the-art or ease-of-use appeal. Digital TV, with its superior video and audio quality — compared with analog — will also be included in the package at some point, said Payne.

For its part, Telewest has not yet announced specific plans regarding its rollout. Complicating such broadband deployment is a twist brought on by one basic fact: The cable penetration rate in the U.K. is in the 20 percent to 25 percent range. Contrast that with the 90-plus percent penetration in the Benelux countries, and it's easy to see why @Home might be more at home on the Continent than in the U.K.

The U.K.'s penetration rate has remained low despite a virtual rewiring of the U.K. at a cost of more than 10 billion pounds ($US15 billion) over the last decade. Yet another 3 billion pounds ($US5 billion) may have to be spent before the network buildout is complete.

Secondary reasons for the low penetration are stiff competition from the British Sky Broadcasting plc direct-to-home platform, and a simple reluctance by viewers to pay for multichannel television, when they already shell out fees to support the British Broadcasting Corp.

As a result, MSOs in the U.K. have had to turn to other services for additional revenue. As the cable network was revamped, copper wire was laid down alongside the cable. In addition, the 1992 liberalization of telecommunications laws allowed more local-loop access and competition. Therefore, U.K. cable operators had the means, the need and the regulatory environment to provide local-loop access. So, the MSOs combined traditional cable television services with telephony services and bundled them in such a way that the public saved money by buying both services. Consumers, and even businesses, responded favorably.

"It's telephony that's historically proved more popular with the U.K. population than CATV, in terms of absolute numbers of customers," comments Telewest's Powers.

According to Ovum's Matthews, "One of the significant reasons for that [lag] is the extent to which telephone services by cable companies in the U.K. are significantly in advance of the rest of the world," remarks Matthews.

This isn't to say that broadband won't come to the U.K. However, because of the cable operator's local-loop access, such broadband services may take a different form. There may be mixtures of narrowband services over copper alongside broadband services over coax, all offered by the same company. Matthews thinks that the U.K. model may be one that is followed in other countries in Europe.

For their part, the U.K. MSOs have a strong incentive to keep up with the broadband revolution. Some are counting on the combination of digital cable, broadband and narrowband offerings to push them out of the mid-20 percent penetration rates.

As C&W's Payne notes, "We believe we could raise that to 35 percent to 40 percent over the next three to five years."

Perhaps then the U.K. operators will finally begin to realize the potential in a country for which they've always had such high hopes. ■

NewProducts

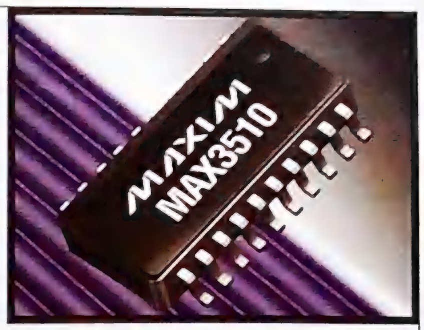
Components for Broadband EDFA

E-TEK Dynamics Inc. has developed new, ultra-wideband fiber optic isolators and pump wavelength division multiplexers (WDM) for broadband optical-amplifier systems. The new components have stable performance over temperature and a wavelength range of up to 100 namometers (nm) wide. They are suited for advanced erbium doped fiber-amplifier (EDFA) systems, operating in the C and L bands that enable dense WDM systems to transmit signals at the higher bandwidths around 1,600 nm.

The optical isolator is polarization insensitive, with at least 45 decibel (dB) isolation and a typical 0.7 dB insertion loss across 1,530 nm to 1,620 nm. The device does not have any epoxy in the optical path, E-TEK says.

E-TEK Dynamics Inc.
1865 Lundy Ave.
San Jose, CA 95131 USA
Tel: (1) 408-432-6300
Fax: (1) 408-432-8550
Web site www.e-tek.com

Upstream Amplifier



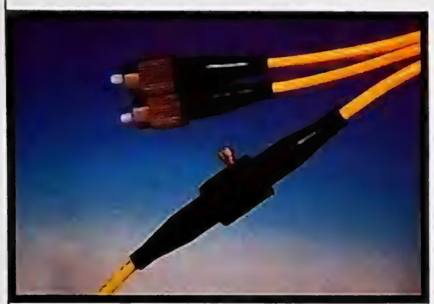
Maxim Integrated Products has introduced its MAX3510 programmable power amplifier, designed for cable-TV upstream applications. Operating through a 2:1 voltage-ratio transformer, it delivers continuous wave outputs as high as 64 dB per millivolt (mV). Its variable gain is controlled in 1 dB steps via a three-wire serial interface digital-data bus. The operating frequency range is 5 megahertz to 65 MHz.

The amplifier has a transmit-disable mode that minimizes output noise by shutting down the output stage between data bursts. This mode also places the device in a high-isolation state while maintaining a match to a 75-ohms load. Output transients are typically 7 mV when entering and leaving the transmit-disable mode.

Maxim Integrated Products Inc.
120 San Gabriel Dr.
Sunnyvale, CA 94086 USA
Tel: (1) 408-737-7600
Fax: (1) 408-737-7194

Variable Optical Attenuator

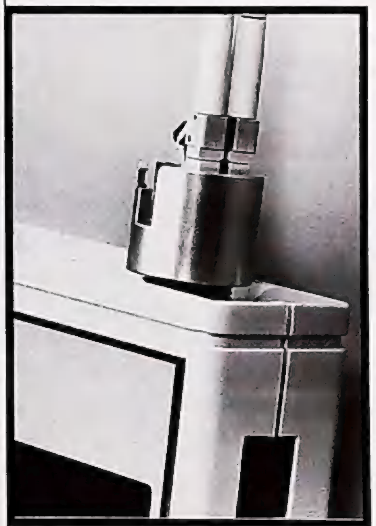
Fiber Optic Network Solutions (FONS) Corp. has introduced a variable-optical attenuator (VOA), an addition to its line of fiber-management products. The mechanically adjustable VOA provides precise attenuation control. Designed for use at both 1300 nm and 1550 nm wavelengths, the VOA has an attenuation range of 1 dB to 30 dB. Product design features minimize back reflection and ensure attenuation stability over a broad operating temperature range.



The company's VOAs are available with standard input and output pigtail lengths of one or two meters, and with SC- or FC-style connectors. The VOAs can also be custom-configured to meet any specific pigtail length and connector requirements, according to FONS.

FONS Corp.
71 Lyman St.
Northboro, MA 01532 USA
Tel: (1) 508-393-4268
Fax: (1) 508-393-3657
Web site: www.fons.com

Power Media Adapter



Fotec Inc. is now offering an adapter for the new Lucent LC connector that allows testing of LC-terminated cables on all its fiber optic power meters. The Fotec A278 adapter works with all Fotec fiber optic meters. The adapter has been designed to allow testing LC connectors in both simplex and duplex configurations. Also, in a duplex mode, either fiber can be tested.

Fotec Inc.
151 Mystic Ave.
Medford, MA 02155-4615 USA
Tel: (1) 781-396-6155
Fax: (1) 781-396-6395
Web site: www.fotec.com

Fiber Cleaver

Fiber Optic Center Inc. has announced the availability from stock of the new Oxford OFC-2000 fiber cleaver. The unit requires minimal skill to operate, the company says, and uses a single operation for the cutting.

In addition, fast "stapler" operation and precision (no need for re-cleaves) equates to greater throughput, say company officials. The angled blade design reduces stress on the fiber during cleaving, and produces "mirror smooth" end faces with no hackle.

For 125-micron, standard single-mode and polarization-mode fibers, the average angle is less than 0.34 degrees, with a standard deviation of 0.08 degrees. Ninety-nine percent of the cleaves are less than 1.0 degrees.

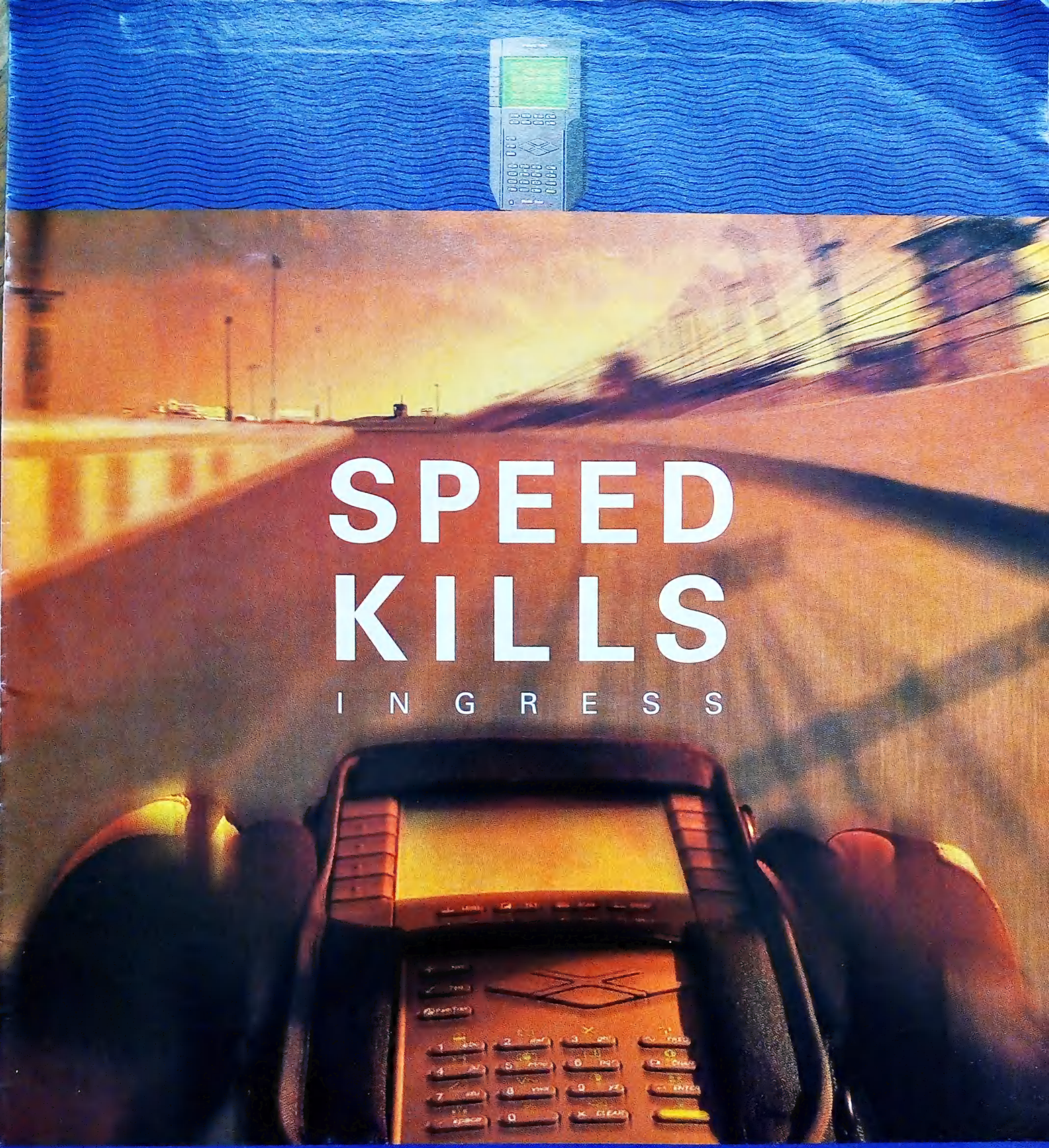
Fiber Optic Center Inc.
23 Centre St.
New Bedford, MA 02740 USA
Tel (1) 508-992-6464
Fax: (1) 508-991-8876
Web site: www.focenter.com
E-mail: sales@focenter.com

Digital Signal Generator

Leader Instruments Corp. has introduced its new high-definition TV-signal generator, Model LT 440D. The generator operates in the 1125/59.94 interlaced system with 1035 lines or 1080 lines displayed, front-panel switchable with 1125/60 operation optional. Three SDI outputs with eight channels of embedded digital audio are provided, as well as a separate AES/EBU stereo output.

The LT 440D complies with SMPTE standards 240M, 274M, 291M, 292M and 299M. Matrix settings are based on the final Y formula by 274M. Fourteen test patterns specially set up for digital operations include 100 percent and 75 percent color bars, line sweep, multiburst, bow-tie, oversized and shallow ramps, staircase and the pathological check field.

Leader Instruments Corp.
380 Oser Ave.
Hauppauge, N.Y. 11788 USA
Tel: (1) 516-231-6900
Fax: (1) 516-231-5295


SPEED
KILLS
INGRESS

Yin-Yang

Continued from Page 13

would allow the system to experiment with some nifty new features like e-commerce, interactive television, Internet access and electronic program-guide services.

"Our shareholders felt that it was a bit too early to go full scale into the Microsoft project because of the rapidly changing technology landscape," Yong explains.

Similarly, SCV has postponed the commercial rollout of modem service by a year. It started a modem trial in July 1997 in 5,000 homes. And it intended to move out of the test phase last July. Instead, it's opted to continue the test until the middle of this year. Yong explains that the system wants to wait until more advanced modems are available before diving in completely.

Those moves of constraint come at a time when Singapore residents are learning to love another high-tech service that, together with SCV, is part of the government's grand scheme of creating an "intelligent island" linking every single home with multimedia services. SCV is developing alongside Singapore ONE (One Network for Everybody), the government's broadband pipeline into the home that provides everything from video streaming to video-on-demand (VOD) to Internet access and multimedia applications. What it doesn't provide is traditional cable TV.

As far as Yong is concerned, it's not a threat. In speaking of the VOD feature, he says: "In Asia, VOD is not an easy service to provide, because video rentals are so inexpensive."

So far, both Singapore ONE and SCV have been protected by the government from competition. Indeed, SCV is partially owned by the government in a manner referred to as "corporat-ization" by William Earl, executive assistant to the managing director at Hong Kong's Cable TV system.

"Corporat-ization is two-thirds of the way between a government department and a commercial entity," he explains. In fact, all three of SCV's Singaporean owners have some government blood flowing through their veins, although Singapore International Media is almost completely owned by the government or government entities.

> "In terms of the number of subscribers that feed off a single headend, [Shanghai Cable is] the largest system in the world."
>
> — *Bill Katherman, general manager, Scientific-Atlanta's joint venture in China, chief representative, Shanghai*

But the firewall protecting Singapore Cable Vision will come down when its exclusive license period ends in 2002. The big question moving forward concerns how well SCV will fare in that new environment — with the prospects of companies like Singapore Telecom, one of the most powerful telcos in Asia, possibly entering the fray. Whether or not SCV, in turn, enters the telephony business at that time also remains to be seen, says Yong.

But clearly, that future landscape very much affects Yong's moves today, as he attempts to bolster the subscriber base as much as possible.

As is true with Shanghai Cable, the future onus for SCV has to be on making its fiber optic network pay off, notes NBC Asia's McGuirk, in summarizing the systems' similarities. In speaking of Yong, as well as Shanghai's Hu, he adds: "There's a nice silhouette of pressure on both of these men." ■

Spain,

Continued from Page 5

lion] over the next 10 years to develop the market, and to offer basic [pay] TV, [premium] pay TV, pay-per-view, high-speed Internet and so on."

TC insiders confirm that testing and operations are already under way on the technical front, and that TC is busy lining up its channels and other services.

"Regarding the infrastructure, we are ready to begin operating right now. And as for programming, it is in the final stages," says a source from TC who insists on anonymity.

While TC is expected complete its infrastructure by early this year, the cable operators it will be competing with will probably only have about 25 percent of the households in their franchises passed by that time.

Moreover, TC's strategy is to hold a minimum equity stake of 51 percent in its systems in every region, and get local partners to hold the rest. This will give it another advantage over its competitors, rivals complain.

"TC's partners will only have to complete the systems, which will take less time and less means" than it will the competing operators starting from scratch, says one cable operator.

On the programming front, the special-interest group Commission for the Telecom Market (CTM) sees another advantage for TC that will hurt the competing cable operators CTM has been lobbying to protect.

Telefónica is a majority shareholder in the Spanish digital direct-to-home platform Vía Digital, which ultimately is expected to merge with its rival, Canalsatélite Digital.

At the same time, Vía Digital has been acquiring programming rights both for cable and satellite, which leaves TC well positioned to launch its cable services.

"Who but TC can take for granted Vía Digital's programming?" asks an industry analyst.

Officially, Mariano Sotillos, general manager of TC, is tightlipped about the cable company's plans.

"We can't unveil our strategy, as we will be the last to begin operating our systems," he says.

Having succeeded once in delaying TC's entry into the market, its cable competitors are not resigned to competition starting in August. They're still lobbying to extend the moratorium.

To Jesús Pelegrín, managing director of the Cable Operators Association, a body that represents 80 percent of the area covered by the other cable operators, the 24-month moratorium that ends this summer is not enough.

"Our members need more time to catch up with TC," he says.

An appeal to European Commission authorities hasn't yielded any results so far, but then the operators' last victory against TC came at the 11th hour.

After a fierce lobbying effort built up steam last fall, TC was just on the verge of operating in December before the competing cable operators' lobbying succeeded in extending the moratorium to 24 months. ■

Australia,

Continued from Page 5

been measuring shifts in viewing patterns for some time now. Their separate base of People Meters, involving 4,000 TV homes around the country, includes 530 meters in households that receive pay TV. That's a bigger sample than Optus and Foxtel will have between them when all their People Meters are installed: Optus has an installed base of about 200 People Meters, while A.C. Nielsen is installing 245 in Foxtel homes.

While the terrestrial networks have kept the pay TV figures close to their vests, pay's impact on free-to-air viewing has increasingly been the subject of discussion in broadcasting circles. It came to a head late last year, when the leading broadcaster, Kerry Packer's Nine Network, axed its 20-year-old daytime variety program *Midday*.

"Changes in daytime television viewing habits have forced us to rethink our strategy," Nine CEO David Leckie said at the time. He cited a shift of the daytime audience to pay TV.

Given the audience erosion experienced by broadcasters in markets where pay TV is a force, the Australian viewing shift is likely to accelerate. "There is no doubt free-to-air television will lose audience — and soon. Exactly which audiences and when are the questions," says media buyer Steve Allen, a director of Advertising Investment Services Media (AIS).

That threat has caused some conspiracy theorists to suggest that Nielsen's delay in installing meters in Foxtel homes was a result of pressure by the broadcasters. The 245 People Meters were supposed to be installed last November, but Nielsen blamed the delay on a manufacturing glitch. Several unnamed channel providers noted at the time that Nielsen was in the process of rebidding for its terrestrial People Meter contract, which expires later this year. Nielsen is vying with at least two other international providers for the lucrative contract. And the delay was seen by some in the pay industry as a stalling tactic to favor Nielsen in its terrestrial contract bid.

Pay's impact on free-to-air viewing has increasingly been the subject of discussion in broadcasting circles.

Nielsen managing director of measurement services Ian Garland pours cold water on that idea, noting that the delays stemmed from "genuine manufacturing problems, which have now been resolved."

David Malone, the CEO of Multichannel Network, called the delay "very frustrating," but said his company is now working with Nielsen and Optus ad-sales director Peter Hudson on an industrywide approach to make comprehensive figures available by later this month.

Hudson already has a few cards up his sleeve. Optus has been measuring its viewing share for more

BLIPS ON THE SCREEN

than a year now. But because its subscriber base has stayed around 200,000 for the last 18 months, the company decided not to release its figures until Foxtel does.

While Hudson's and Malone's new efforts are much anticipated, the industry has previously worked together to highlight its virtues. And those that buy its ad avails have had certain qualitative data to draw upon, from which they extrapolated certain broad ratings statistics in the past.

For example, AIS' Allen contends that between the terrestrial and Optus figures that have been available to him, pay TV collectively has a 2.7 to 2.9 share in primetime.

However, Allen notes that "54 channels at a household penetration of maybe 15 percent, realizing a combined rating of less than 3.0 percent, is not a huge success nor a substantial intrusion. The pay TV share will be a niche for the foreseeable future."

Needless to say, lumping so many channels into one number is far from the ideal way to measure multichannel viewing. Optus' Hudson notes that his company's People Meter surveys show that pay TV subscribers are spending more than 50 percent of their time watching pay, and that pay channels are starting to dominate specific demographics, especially the kids' market.

He describes pay TV advertising as an evolutionary process. "The release of figures will have a major impact, but it's another step in the evolution," he says ■

Africa,

Continued from Page 5

ray. E.tv is South Africa's first commercial broadcast channel. It began broadcasting in bits and pieces in October, and is due to become a 24-hour service this month.

The new agreements end a long acrimony between the SABC and Multichoice and M-Net, which began when M-Net first challenged the SABC's monopoly in the 1980s.

The agreements include the reciprocal supply of programming and the sharing of advertising revenue. In one of the pacts, the SABC — which already has three terrestrial channels — has created two digital-satellite channels that it is providing to Multichoice Africa on commercial terms.

The two channels, SABC Africa and Channel Africa, are now included in Multichoice Africa's satellite platform, DStv, which transmits to 44 African countries with a combined 1.2 million subscribers, most of whom are in SABC's home territory of South Africa.

SABC Africa channel editor Allister Sparks boasts that "SABC Africa is Africa's first channel dedicated almost exclusively to African news. Subscribers will receive news updates from African reporters throughout the day, interspersed with highlights from local current-affairs and human-interest programs."

The channel is transmitted throughout the continent via Multichoice, and reaches 70,000 subscribers outside of South Africa.

Channel Africa, which is largely an Afrocentric entertainment channel, is a 24-hour service that is transmitted to DStv's southern African subscribers only.

The pact with Multichoice/M-Net will strengthen the SABC financially, with projections that it will bring in an additional 1.1 billion South African rand ($US189.9 million) in revenue to the SABC over 10 years.

It will also open the door to greater advertising income, and will diversify the SABC's revenue stream at a time when it has faced cutbacks due to financial difficulties.

In addition to helping keep e.tv at bay today, the SABC's cooperative strategy "is also intended to strengthen the SABC against future competition, which will emerge once regional television channels and further pay TV operators are licensed to broadcast in South Africa by the Independent Broadcasting Authority," says the SABC's Murray.

DStv, meanwhile, benefits from an expanded programming bouquet, especially with the African channels that complement its lineup of mostly imported channels.

"Until recently, we have had a multitude of international news channels, but no Africa-specific news. Additionally, the entertainment offered on our channels was all predominantly of a Western nature," notes DStv chief financial officer Eben Greyling.

The deal also sees the SABC's three terrestrial TV channels — SABC1, SABC2 and SABC3 — simultaneously transmitted on the digital Multichoice throughout South Africa.

In a separate deal, M-Net and SABC announced that programming blocks of Channel O, M-Net's music and lifestyle channel, would be broadcast on SABC1.

Launched in October 1997, Channel O targets 16- to 24-year-old black Africans, presenting a range of international music by black musicians, as well as showcasing local African artists.

"Channel O has the potential to reach 35 million viewers across the African continent [through current satellite distribution], and the [M-Net] deal will boost potential viewing figures to more than 45 million," says Bernice Samuels, Channel O's CEO.

The partnership does not involve a direct program-acquisition fee. Instead, revenue from advertising will be split between M-Net and the SABC.

Both M-Net and SABC have hinted that this will be the first of many partnerships between the TV companies. ■

Distributor/Representative Directory

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Peter Schwaiger
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Fax: 55-11-287-5337
email: fares@lotier.com

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Fax: 81-3-5371-3568
email: kino@xbeam.co.jp

WAVETEK

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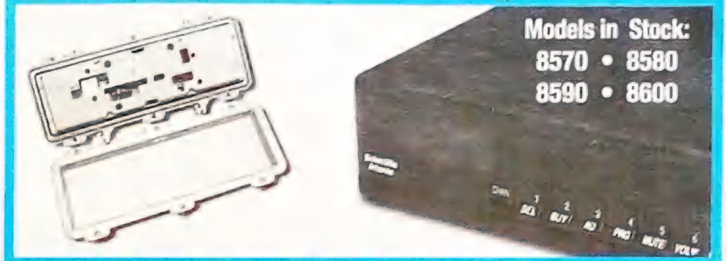

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Taking Stock

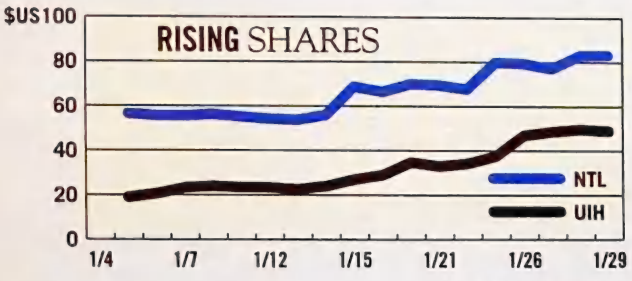
BY MIKE GALETTO

INVESTMENTS

Microsoft's MSO Millionaires

THE MICROSOFT CORP. Midas touch was at it again last month, this time stretching across the Atlantic Ocean, when the software giant said it would invest $US800 million in two of Europe's leading cable operators.

The company invested $US500 million in NTL Inc., the United Kingdom's third biggest MSO, and $US300 million in United Pan Europe Communications N.V. (UPC), Continental Europe's leading operator and a unit of United International Holdings Inc. That sent the cablers' stocks soaring.



Source: Nordby International

NTL surged 18 percent on Jan. 25, the day of the announcement, and closed the month of January up 47 percent at $US83.125. Shares of UIH, already rocketing in anticipation of UPC's initial public stock offering, rose 25 percent on Jan. 26 when news of its Microsoft deal broke. They ended the month up a dizzying 159 percent at $US49.

NTL and UPC are seen as standouts among European operators. "We talk with a lot of network operators, and it was apparent to us that these two companies were very closely aligned with us in terms of their aspirations for upgrading their networks and rolling out new digital services," says Alan Yates, director of platform marketing, Microsoft Web TV. "We felt that they were on the forefront."

Microsoft, under separate agreements, will work with NTL and UPC to develop high-speed voice, video and data services, such as Internet- and other interactive-service applications. Those are areas where the two MSOs are already pushing ahead: NTL is an established telephony provider, while UPC is ramping up its younger telephony service as well as it interactive-broadband network, Chello.

UPC also last month said it will double the size of its IPO, set for this month, to $US1.25 billion from $US650 million. Shares of UPC will trade on the Amsterdam Stock Exchange, and on the Nasdaq in the form of American depository receipts.

The surging values of NTL and UIH – which analysts say could rise further — could spur others eyeing the market to move quickly.

"It highlights the value of the assets they've built," says Aryeh Bourkoff, who follows European cable and telcos for CIBC Oppenheimer Corp. in New York. "It puts pressure on other multichannel providers to come in before the price gets too high."

Uncorking an Asset

OPERATIONS

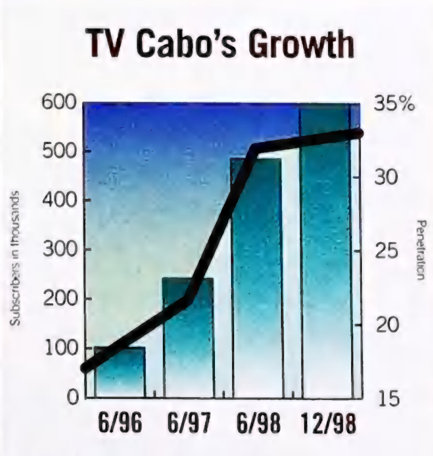
PORT WINE is made by adding brandy to regular wine during the fermentation process. The result is a sweeter spirit that packs a lot more punch.

Executives at Portugal Telecom S.A., the country's telco, probably weren't thinking of their national drink when they decided to spin off pay television unit TV Cabo Portugal S.A. in an initial public offering. But by adding fresh funds, and strategic partners, to TV Cabo, they could create a top-shelf product. Breaking TV Cabo out will also help PT to avoid problems with European Union antitrust regulators working to split up national telecom monopolies.

TV Cabo boasts about 600,000 subscribers, and has doubled its subscriber base each year over the past three years. Its hybrid fiber-coaxial network passes about 1.8 million of Portugal's 3.13 million TV homes. Its digital direct-to-home platform has garnered about 12,000 subscribers since it launched last September.

That track record has already helped attract premium prices. In December, PT sold 6 percent of TV Cabo to a group of private investors — including five Portuguese investment banks and Olivedesportos S.A., a TV Cabo programming partner — for $US94.1 million. That converts to a healthy $US2,666 per subscriber and values TV Cabo as a whole at $US1.6 billion.

However, TV Cabo is a drop in PT's vat, accounting for just 2.8 percent of the parent company's revenues and receiving 3 percent of PT's investment spending.



Source: Portugal Telecom

PT plans to sell additional direct stakes in TV Cabo to strategic partners during the first half of the year. And, in November, it plans an IPO for between 25 percent and 33 percent of TV Cabo. Following those sales, PT will be left with 60 percent of TV Cabo.

TV Cabo "has been exceptionally successful in terms of customer [growth] and profitability," says one European analyst who follows PT.

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THE PAY TV PAYOUT

Company	Ticker	Exchange	Close 12/31/98	Close 1/25/99	Percent Change	52-Week High	52-Week Low
AsiaSat	SAT	NYSE	$17.50	$17.00	-2.86	$22.00	$9.75
At Entertainment	ATEN	NAS	$6.75	$7.50	11.11	$19.37	$3.87
British Telecom	BTY	NYSE	$151.69	$158.00	4.16	$168.43	$91.87
BSkyB	BSY	NYSE	$46.38	$43.63	-5.93	$54.50	$34.12
Cablevision Systems	CVC	AMEX	$50.13	$65.00	29.68	$66.75	$21.75
Cable & Wireless	CWZ	NYSE	$45.38	$65.06	43.39	$66.93	$21.37
Canal Plus	CNLP	Paris	$272.47	$275.87	1.25	NA	NA
Com21	CMTO	Nasdaq	$21.00	$26.00	23.81	$30.00	$8.37
Deutsche Telekom	DTEG	Frankfurt	$32.84	$27.59	-15.99	NA	NA
Flextech	FLXT	London	$10.07	$12.45	23.58	NA	NA
General Instrument	GIC	NYSE	$33.94	$32.88	-3.13	$41.00	$16.43
Globocabo	GLCBY	Nasdaq	$2.25	$1.88	-16.67	NA	NA
Grupo Televisa	TV	NYSE	$24.69	$23.50	-4.81	$43.25	$14.87
Hongkong Telecom	0008	Hong Kong	$1.75	$1.69	-3.36	NA	NA
Matav	MATVY	Nasdaq	$19.38	$22.94	18.39	NA	NA
News Corp.	NWS	NYSE	$26.44	$26.75	1.18	$33.50	$20.18
NTL	NTLI	Nasdaq	$56.44	$79.75	41.31	$71.75	$30.62
NTT	NTT	NYSE	$37.50	$39.63	5.67	$49.50	$31.00
PanAmSat	SPOT	Nasdaq	$38.94	$38.50	-1.12	$66.12	$26.50
Scientific-Atlanta	SFA	NYSE	$22.81	$28.69	25.75	$31.25	$11.75
Telcom Italia	TI	NYSE	$87.00	$92.94	6.82	$100.87	$53.00
TCI	TCOMA	Nasdaq	$55.31	$66.50	20.23	$71.56	$26.25
Telefónica	TEF	NYSE	$135.38	$138.38	2.22	$165.00	$93.62
Telewest	TWSTY	Nasdaq	$28.25	$43.13	52.65	$44.50	$12.62
TV Filme	PYTV	Nasdaq	$0.38	$0.44	16.67	$5.50	$0.25
UIH	UIHIA	Nasdaq	$19.25	$37.63	95.45	$36.50	$7.75

Source: Nordby International

FORUM

Analyzing the 'Attention Economy'

BY SIÂN DAVIES

Nobody doubts that the immense growth in the number of media outlets has provided a seemingly unlimited amount of choice for consumers. But, at the same time, the explosion has opened a sort of Pandora's box of questions regarding the fates of many media owners, as well as advertisers.

In a way, the questions revert back to basic economic and business principles. For example, choice: How will media consumption change as consumers are offered more and more options? Or competition: Which media will win the battle for consumers' time and money, and which will lose? Technological advances: How will digital television, interactive services and the Internet affect media use?

OUTSTRIPPING GROWTH

The increase in the number of media choices over the next five years will outstrip the growth in consumers' disposable income and time. This will create profound challenges for media owners seeking to maximize returns on investments in content production and distribution, and for advertisers seeking maximum effect from their marketing budgets.

Increasingly, companies will have to find opportunities to generate revenue and profit on the margins of consumer behavior. Small changes in time and spending will, over time, make all the difference between a successful distribution channel and an unsuccessful one. In this environment, understanding media consumption patterns, and the way new and old media complement and compete with each other, will be critical.

For this reason, The Henley Centre in London has conducted research into British consumers' allocation of their core resources — time and money — across traditional and new media. This research is contained within *Consumers' Money and Media Time*, or *COMMET*, our unique and proprietary model of consumer behavior and the media industry.

COMMET is based on a concept known as the "attention economy." Here are a few words of explanation: The driving force of any economy is the allocation and distribution of scarce resources. In most economic models, the production and distribution of material goods is the focus of analysis. However, recently, several Internet commentators have put forth the idea that it is attention that will dominate the emerging cyber-economy.

The concept of the attention economy is linked to the shift in industrialized nations toward an economy in which an increasing number of people are no longer involved directly in the production, transportation or distribution of material goods. Instead, they earn their livings managing or dealing with information in some form.

Most people call this transformation the arrival of the "information economy." However, the emerging economy is not truly an information economy, but an attention economy. It is attention that is scarce, not information.

Over the past 10 years, our media choices have grown exponentially. We now have more TV, radio, videos, books and magazines than ever. And that's before we even think about the massive increase in electronic media, from console games to online newspapers.

But, despite this explosion in choice, the increase in time and disposable income we spend on media has been minimal. We now effectively have a supply that is the metaphorical equivalent of Niagara Falls, while demand is a teacup.

A ZERO-SUM GAME?

Because demand remains fairly constant, media owners and content providers can really only gain market share by acquiring it from one another. In an already very competitive market, only the most clever players — those who understand how consumers trade off their time and money when making media decisions — are likely to survive.

COMMET suggests that patterns of media consumption will

DAVIES

> *The increase in time and disposable income we spend on media has been minimal.*

change significantly over the next five years, with a number of key factors driving it:

- Magazines and cinema will increase their share of consumers' time and money.
- TV, driven by digital and multichannel TV, will do well in terms of money, but not in terms of time.
- Home computers and video games will increase their share of consumers' time, but their share of consumers' money will remain constant.
- Books and recorded music will also increase their share of consumers' time, but lose in terms of money.
- Radio will remain virtually constant.
- Newspapers will lose both consumers' time and money.

Even marginal shifts in consumption will have important implications. Taking electronic media as an example, time spent has increased by just less than an hour over the past 10 years but, as a proportion of the time that is spent on media overall, this represents a decline of 2 percent. However, this percentage is now split between terrestrial and multichannel TV, videos, the Internet, video games and CD-ROMs. And, in the next five years, interactive services such as pay-per-view, near-video-on-demand, home shopping and home banking will all be encroaching on that same piece of the media pie.

Similarly, although The Henley Centre's recent *Media Futures* study does not predict a large increase in media spending by British consumers, small shifts in consumption, in line with disposable income, will result in increased spending in 1999 of £8 ($US13.36) per adult in the United Kingdom. In other words, media spending per person will increase just 1.8 percent to £450 ($US751.50).

Using the *COMMET* analysis, this translates into an extra £3 ($US5.01) spent on hardware vs. £5 ($US8.35) on software over the course of the next 12 months. Henley consultants have also analyzed spending in terms of the individual media. For 1999, the analysis suggests that the shifts will result in:

- An extra £7 ($US11.69) spent per person on viewing. This will largely be accounted for by multichannel and digital TV.
- An extra £2 ($US3.34) spent per person on interactive services. This includes home computers, CD-ROMs, video games, the Internet and interactive services delivered over digital TV.
- A drop of £1 ($US1.67) spent per person on audio, despite the launch of the DVD.
- Unchanged spending on print media such as newspapers, magazines and books.

As consumers are faced with more media choices, achieving success in terms of hit records, films, books, TV-channel brands and so on will be essential. For both the consumer and the media industry, a hit represents a guarantee that there will be a good return on their investment of time and money.

What has changed is their relative importance. Overwhelmed with choice, something that has already proved a popular success relieves the consumer of some of the burden of deciding between the options and so becomes more attractive.

HITS AS BRANDS

For media owners, content owners and advertisers, hits, if handled well, are effectively brands that can be used to extend their influence in consumers' lives and to secure future success. Their value is in their short-term return and long-term ability to exploit the goodwill they generate.

The attention economy represents a fundamental challenge to anyone involved in any aspect of the media business. It is no longer valid to consider the future of a sector on its own. As the *COMMET* model clearly demonstrates, we will invest only very slightly more money and time across all aspects of the media.

Grabbing share from traditional and nontraditional competitors with innovation, creativity, clever marketing and hits will be essential for market survival.

Siân Davies is director of The Henley Centre, an international consumer consultancy based in London. Its expertise lies in understanding the key drivers of change — whether social, political or economic — and how these will affect consumer behavior, now and in the future.

ONE ON ONE

Casting a Broadband Lasso

MIKE GALETTO SPEAKS WITH GARY AMES

Convergence is an oft-repeated word that's just beginning to emerge as a reality. To see some of the results it can deliver, it helps to take a look at the activities of MediaOne International. For starters, the company is the biggest shareholder of British multiple system operator Telewest Communications plc, with 29.9 percent of the company. Over the last year, Telewest has emerged as the country's biggest MSO with 914,000 TV subscribers and 1.45 million telephony subscribers.

Over recent months, three other partners in Telewest — Cox Communications Inc., SBC Communications Inc. and France's Vivendi — have sold their stakes in the company, while there's speculation that Tele-Communications Inc. could do the same. On top of that, there are murmurs that Telewest itself could be acquired.

MediaOne International is also leading broadband charges in markets such as The Netherlands, where it's an equal partner with United Pan-Europe Communications N.V. (UPC) in the MSO A2000. And in Japan, it owns 25 percent of MSO Titus Communications Corp.

At the same time, MediaOne International's cellular operations include Britain's One to One, a joint venture with Cable & Wireless plc, as well as smaller footholds in Central and Eastern Europe, Russia and Southeast Asia.

Directing the efforts is Gary Ames, president and CEO of MediaOne International, who spoke last month by phone from London about the company's current projects and changes that could be up ahead.

GALETTO: How do you see Telewest's ownership structure evolving in the near- to mid-term, and what will MediaOne International's role be?

AMES: Telewest is very well positioned, and MediaOne believes very strongly in Telewest, which is why we've bought up. And I believe TCI also feels good about how Telewest has performed and is a party that will likely want to stay. The future is bright for Telewest.

GALETTO: Is there any possibility of a new partner coming in? Cable & Wireless' name has come up and One to One has been a successful partnership for both of you.

AMES: There are plenty of franchises that need to be rationalized between the three major [British cable] players, and I think there will be plenty of opportunities and interest in other parties participating in the industry. It's very difficult to speculate on future ownership structures, but I think the punchline with Telewest is that 49 percent is now publicly held. MediaOne has 29.9 percent, and feels very committed to the venture.

GALETTO: How do you plan to drive future growth at Telewest, as well as revenue per subscriber?

AMES: The beauty of broadband networks is that there are significant opportunities for multiple services over those networks.Telewest has an unusual situation, where it has a million telephony customers already. On top of telephony will come services such as high-speed data and digital television.

Telewest is also blessed with a very strong business-services capability and a recently completed fiber optic backbone network that runs across this country. So there are all kinds of opportunities for offering multiple services to the consumer.

GALETTO: In programming, you're limited to your 9.5 percent stake in British program-network company Flextech plc. Are there any plans for you to expand there?

AMES: There are no specific plans for that. We believe that, for the moment, our skills are best in building and developing [distribution] networks.

On the other hand, as we go forward, we are going to be looking for ways to further enhance those services to the customer, and not just in networks but in the services that ride over those networks. If that means getting more involved in the value chain as far as content, we may do that. I don't know that that necessarily means we will invest heavily in ownership of content as opposed to relationships and partnerships.

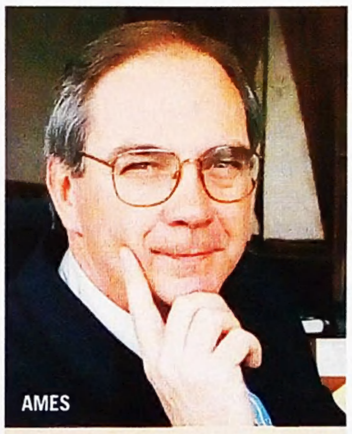
GALETTO: What were the reasons for pulling out of Latin America, and what would it take to draw you back to the region?

AMES: Let me look back to a broader thought and I'll answer that.

We made a decision three years ago, when I came, to focus the international strategy. At that time we were probably in 30 joint ventures and had an average ownership in those ventures of less than 30 percent. We were also on a number of continents.

We said we would focus on the broadband and cellular businesses, and we would focus our business in Europe and Asia. It's more a decision on our part to narrow our focus. The result is today we have 16 businesses, not 30, and we have an average position in those businesses of 37 percent. In the meantime, the customer level at the ventures has gone from 2 million to 6 million, even though we're involved in half as many, and the cash flow of those ventures has gone from an aggregate negative amount to in excess of $200 million.

Our effort was really to create value for the MediaOne shareholder and to have that value be recognized by Wall Street. Today I would say we're consistently getting $10 billion of value recognition, and that number three years ago would have probably been in the $2 billion range.

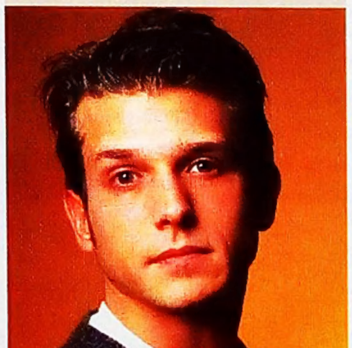


GARY AMES

TITLE:
President and CEO, MediaOne International

BACKGROUND:
Named MediaOne International (then U S West International) president in July 1995. Before that, served five years as president and CEO of U S West Communications. Entered telephone industry in 1967 with Pacific Northwest Bell, which was later absorbed by U S West Inc.

STATISTICS:
53 years old, married, three children, based in London.



GALETTO: I just read that UPC said the A2000 partnership had soured and that it would consider buying out your share. What can you tell us about that? How would you gauge your commitment to A2000?

AMES: I really can't tell you anything, since [UPC CEO] Mark Schneider has denied he said that. I have talked to Mark, and he said that really wasn't said.

We like A2000 a lot. It's dead on target with MediaOne's strategy and our focus on investing more in broadband networks, particularly in Europe. We're quite happy with A2000.

GALETTO: What do you see going forward at Titus?

AMES: We have a very good and experienced new CEO by the name of Lee Daniels. We're charging Lee with developing these multiple services over that network. Our concentration is bringing up telephony and then adding high-speed data.

GALETTO: Do you have a forecast as to how you'd like to see the revenue breakdown at Titus between television, telephony and data services?

AMES: I don't have a revenue split, but we do believe that the potential for telephony could well approach the levels in the U.K., where telephony penetration is in the 30 percent range. There are all kinds of optimistic forecasts for the opportunities for high-speed data that would lead one to believe that both of those services could be significant contributors to revenue streams.

GALETTO: Do you have any investment forecast for over the next, say, five years?

AMES: I don't have a specific number. We will be a very disciplined investor in the international arena. We believe it is more important to build this $10 billion of assets into stronger and stronger businesses.

We'll invest in the same technologies and in the same geographies. We'll go deeper where we are; we'll strive for increased ownership in business that we have; and we'll look at businesses that are tangential to them. This gets back to your content question earlier. We will look for businesses that are complementary to the cable businesses.

If you were to look at One to One and Telewest, I think they are models about how we think about operating and investing in these businesses. ■

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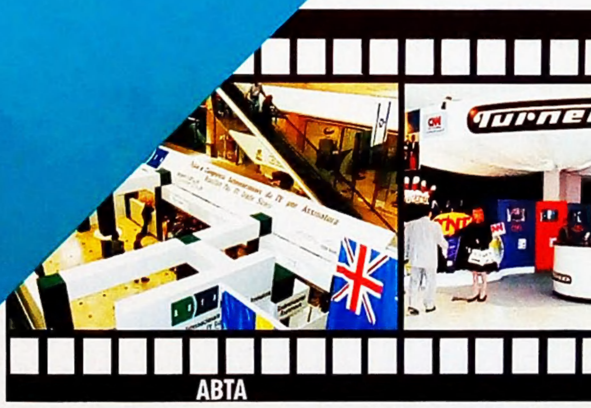

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